Cavenham Forest Industries LLC
Mobile, Alabama
EPA I.D. Number ALD 057 226 904

FACT SHEET

A draft renewal of the Alabama Hazardous Waste Management and Minimization Act (AHWMMA) permit has been prepared for the Cavenham Forest Industries LLC facility. This hazardous waste facility is located in Mobile, Alabama. This fact sheet has been prepared to briefly advise the public of the principal permitting, legal and policy issues of the draft permit.

I. PERMIT PROCESS

The purpose of the permitting process is to allow the State and the public to evaluate Cavenham Forest Industries LLC's ability to comply with the hazardous waste management requirements of the AHWMMA, as amended. Cavenham Forest Industries LLC must comply with hazardous waste management conditions set forth in the permit during the effective period of the permit, which is ten (10) years from the effective date of this permit.

II. PROCEDURES FOR REACHING A FINAL DECISION

The Alabama Department of Environmental Management (ADEM or Department) is proposing to issue Cavenham Forest Industries LLC a permit renewal for post-closure care for the Vacuum Ponds (SWMU 12), Sand Filtration Beds (SWMU 14), Aeration Pond (SWMU 16) and Container Storage Area (SWMU 21) which were closed as one closed landfill unit (SWMU 1) with wastes and/or contaminated soils remaining in-place.

ADEM Admin. Code r. 335-14-8-.08(6)(b)1. requires that the public be given at least a 45-day comment period for each draft permit. The comment period will begin on September 10, 2025, which is the date of publication of the public notice in major local newspaper(s) of general circulation, and will end on October 27, 2025. The public notice will also be broadcast over local radio station(s).

Any person interested in commenting on the application or draft permit must do so within the 45-day comment period discussed above.

All persons wishing to comment on any of the permit conditions or the permit application should submit their comments in writing to the Alabama Department of Environmental Management, Permits and Services Division, 1400 Coliseum Blvd. (zip 36110-2059), P.O. Box 301463 (zip 36130-1463) Montgomery, Alabama, ATTENTION: Mr. Russell A. Kelly.

ADEM will consider all written comments received during the comment period while making a permit decision for this facility. When the Department makes its final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision.

III. FACILITY DESCRIPTION

Cavenham Forest Industries LLC has applied for permit renewal under the requirements of AHWMMA for post-closure care including corrective action for groundwater contamination. Cavenham Forest Industries LLC is the owner of the closed facility in Mobile, Alabama that used to manufacture treated wood products. Creosote and pentachlorophenol were used in the manufacturing process to preservative treat poles and piles at elevated temperature and pressure. Four RCRA hazardous management waste units were utilized in the treatment process during the operating history. RCRA's hazardous waste management units included an Aeration Pond, two (2) vacuum ponds, Sand filtration Beds, and a Container Storage area. The proposed permit contains provisions for post-closure care for the Vacuum Ponds (SWMU 12), Sand Filtration Beds (SWMU 14), Aeration Pond (SWMU 16) and Container Storage Area (SWMU 21) which were closed as one capped landfill unit (SWMU 1) with wastes and/or contaminated soils remaining in-place. The proposed permit also contains provisions for corrective action for groundwater contamination, which includes upper and lower aquifer recovery and injection wells, and recovered groundwater treatment system.

Additional provisions have been included in the permit as a result of the changes made to AHWMMA to incorporate the requirements of the 1984 Hazardous and Solid Waste Amendments (HSWA) to RCRA. These requirements are included in accordance with ADEM Admin. Code r. 335-14-5-.06(12), which addresses corrective action for Solid Waste Management Units (SWMUs). This rule requires a RCRA Facility Assessment (RFA) of all SWMUs to be conducted at the facility. The RFA for Cavenham Forest Industries LLC has been Completed and SWMUs have been identified. All SWMUs are recommended for further sampling and corrective action if necessary.

IV. TECHNICAL CONTACT

Marwa Sabeeh
Engineering Services Section
Industrial Hazardous Waste Branch, Land Division
Alabama Department of Environmental Management
1400 Coliseum Blvd (zip 36110-2059)
P.O. Box 301463 (zip 36130-1463)
Montgomery, Alabama
(334) 274-4168

.

Alabama Department of Environmental Management

HAZARDOUS WASTE FACILITY PERMIT

PERMITTEE:	**Cavenham Forest Industries LLC**
ADDRESS:	**South End of Herbert Street Mobile, Alabama 36601**
PERMIT NUMBER:	**ALD 057 226 904**
UNITS PERMITTED:	**Post-Closure Care of: Vacuum Ponds* Aeration Ponds* Sand Filtration Beds (2) * Container Storage Area* *Closed as a single landfill unit (SWMU 1)**
ISSUANCE DATE:	**XX XX, 2025**
EFFECTIVE DATE:	**XX XX, 2025**
EXPIRATION DATE:	**XX XX 2035**

This Permit is issued pursuant with the Code of Alabama 1975, §§ 22-30-1-et. seq., as amended, and regulations adopted thereunder and the Hazardous Wastes Management and Minimization Act and in accordance with the plans and specifications and applications filed with the Department subject to the conditions appended hereto, all of which are considered a part of this Permit. This Permit shall be subject to all applicable laws of the State of Alabama, rules and regulations and orders of the Department of Environmental Management and shall be effective from the date of issuance.

Alabama Department of Environmental Management

DRAFT

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
HAZARDOUS WASTE PERMIT

Permittee:

OWNER:
Cavenham Forest Industries LLC
600 River Avenue, Suite 200
Pittsburgh, Pennsylvania 15212

OPERATOR:
Cavenham Forest Industries LLC
South End of Herbert Street
Mobile, Alabama 36652
Mobile County

Permit Number: ALD 057 226 904
Identification Number: ALD 057 226 904

DRAFT

Pursuant to the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA), Code of Ala. 1975, Section 22-30-1, et. seq., as amended, and attendant regulations promulgated thereunder by the Alabama Department of Environmental Management (ADEM or the Department), a permit is issued to Cavenham Forest Industries LLC for the facility located in Mobile Alabama, at latitude N 30° 43' 46" and longitude W 88° 03' 01".

The Permittee must comply with all terms and conditions of this permit, which consists of the conditions set forth herein (including those in any attachments), and the regulations applicable to the Permittee's facility contained in Chapters 335-14-1, 335-14-2, 335-14-5, 335-14-8, and 335-14-9 of the ADEM Administrative Code of Regulations (hereinafter referred to as the "ADEM Admin. Code r."). Applicable regulations are those which are in effect on the date of issuance of this permit.

This permit is based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated April 6, 2023, as modified by subsequent amendments dated June 18, 2024, September 27, 2024, January 14, 2025, and August 22, 2025 (hereby incorporated by reference and hereafter referred to as the Application) is accurate and that the facility will be constructed and operated as specified in the Application. Any inaccuracies found in this information could lead to the termination or modification of this permit in accordance with ADEM Admin. Code r. 335-14-8-.04(2), 335-14-8-.04(3), and 335-14-8-.04(4) and could lead to potential enforcement action. The Permittee must inform ADEM of any deviation from or changes in the information provided in the Application that would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of xx xx, 2025 and shall remain in effect until xx xx, 2035 unless revoked and reissued, or terminated under ADEM Admin. Code r. 335-14-8-.04(2) and 335-14-8-.04(4) or continued in accordance with ADEM Admin. Code r. 335-14-8-.05(2).

Alabama Department of Environmental Management

Date Signed

TABLE OF CONTENTS

PART	TITLE	TOTAL PAGES
I	Standard and General Facility Conditions	11
II	Post-Closure Care	3
III	Groundwater Monitoring and Corrective Action	12
IV	Solid Waste Management Unit Identification and Evaluation	11
V	Corrective Measures Implementation	7
VI	Summary of Deadlines	4

Documents Incorporated by Reference:

Part A and Part B Permit Application submitted on April 6, 2023, as modified by subsequent amendments dated June 18, 2024, September 27, 2024, January 14, 2025, and August 22, 2025.

DRAFT

PART I

STANDARD FACILITY CONDITIONS

I.A. EFFECT OF PERMIT

Issuance of this permit does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any action brought under the AHWMMA, or any other law governing the protection of public health or the environment, for any imminent and substantial endangerment to human health, welfare, or the environment. (ADEM Admin. Code Rule 335-14-8-.01(4)).

I.B. SEVERABILITY

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.C. DUTIES AND REQUIREMENTS

1. Duty to Comply

   The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of the AHWMMA, and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

2. Duty to Reapply

   a. If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The application for a new permit must be submitted at least 180 calendar days before the expiration of this permit, as required by ADEM Admin. Code Rule 335-14-8-.03(1)(b)2.

   b. SWMU Corrective Action Requirements

      The Permittee must submit an application for a new permit for both post-closure and Solid Waste Management Unit (SWMU) corrective measures at least 180 calendar days before the expiration of this permit. The Permittee must reapply in order to fulfill the 30-year post-closure care period required by ADEM Admin. Code Rule 335-14-5-.07(8)(a)1. The Department may shorten or extend the post-closure care period applicable to the hazardous waste facility in accordance with ADEM Admin. Code Rules 335-14-5-.07(8)(a)2. and 335-14-8-.03(1)(b).

DRAFT

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to Mitigate

In the event of noncompliance with this permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

5. Proper Operation and Maintenance

The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment, monitoring, and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance (O&M) includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

6. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause as specified in ADEM Admin. Code Rules 335-14-8-.04(2), 335-14-8-.04(3), and 335-14-8-.04(4). The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

7. Property Rights

Issuance of this permit does not convey any property rights of any sort, nor any exclusive privilege.

8. Duty to Provide Information

The Permittee shall furnish to the Department, within a reasonable time as determined by the Department, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

9. Inspection and Entry

The Permittee shall allow duly designated officers and employees of the Department, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

DRAFT

a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,

d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the AHWMMA, any substances or parameters at any location. The Permittee shall have the opportunity to split samples during sampling.

10. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from ADEM Admin. Code Rule 335-14-2-Appendix I, or the methods specified in Attachment P of the permit application. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 (latest edition), Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020), Standard Methods for the Examination of Water and Wastewater (latest edition), the methods specified in Attachment P of the permit application, or an alternative method approved by ADEM. [ADEM Admin. Code Rule 335-14-8-.03(1)(j)1.]

b. The Permittee shall maintain, at the facility, records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, the certification required by ADEM Admin. Code Rule 335-14-5-.05(4)(b)9, records of all data used to prepare documents required by this permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the certification, application, sample, measurement, report or record, or until corrective action is completed, whichever date is later. This period may be extended by the Department at any time and is automatically extended during the course of any unresolved enforcement action regarding this facility. [ADEM Admin. Code Rules 335-14-5-.05(5)(b) and 335-14-8-.03(1)(j)2.]

c. The Permittee shall maintain, at the facility, records of all groundwater monitoring wells, piezometers, and associated groundwater surface elevations throughout the term of this permit. These records shall include the surveyed location, surveyed elevation, surveyed elevation reference point, total depth, screened interval, construction details, well log, and all other pertinent information for each well and piezometer.

d. Records for monitoring information shall include:

DRAFT

i. The date(s), exact place, and times of sampling or measurements;

ii. The names of individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The names of individual(s) who performed the analyses;

v. The analytical techniques or methods used; and,

vi. The results of such analyses.

e. The following documents and information shall be maintained throughout the term of this permit at the Facility:

i. Complete copy of this permit and the permit application.

ii. Operating record as required by ADEM Admin. Code Rule 335-14-5-.05(4) and this permit.

iii. Copies of all plans, reports, inspection schedules, and inspection logs as required by ADEM Admin. Code Chapter 335-14-5 and this permit.

11. Signatory Requirements

All applications, reports or information required by this permit and submitted to the Department shall be signed and certified in accordance with ADEM Admin. Code Rules 335-14-8-.02(2) and 335-14-8-.03(1)(k).

12. Reporting Requirements

a. Planned Changes

The Permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility and any solid waste management units identified under Part IV of this permit.

b. Anticipated Noncompliance

The Permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

c. Transfer of Permits

This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to ADEM Admin. Code Rules 335-14-8-.04(1) or 335-14-8-.04(3)(a)1.(vii). Before transferring ownership or operation of the facility during the term of this permit, the Permittee shall notify the new owner or

DRAFT

operator, in writing, of the requirements of ADEM Admin. Code Chapters 335-14-5 and 335-14-8 and this permit.

d. Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this permit.

e. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Department no later than 14 calendar days following each schedule date.

f. Twenty-Four Hour Reporting

i. The Permittee shall report to the Department any noncompliance with this permit that may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include, but is not limited to, the following:

(I) Information concerning the release of any hazardous waste which may endanger public drinking water supplies; and,

(II) Information concerning the release or discharge of any hazardous waste, or hazardous waste constituents, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility.

ii. The description of the occurrence and its cause shall include:

(I) Name, address, and telephone number of the owner or operator;

(II) Name, address, telephone number, and EPA Identification Number of the facility;

(III) Date, time, and type of incident;

(IV) Name and quantity of material(s) involved;

(V) The extent of injuries, if any;

(VI) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and,

(VII) Estimated quantity and disposition of recovered material that resulted from the accident.

DRAFT

iii. A written submission shall also be provided within 5 calendar days of the time that the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

g. Other Noncompliance

The Permittee shall report to the Department all instances of noncompliance not otherwise required by Permit Conditions I.C.12.d., I.C.12.e., or I.C.12.f. at the time any other reports required by this permit are submitted. The reports shall contain the information required by Permit Condition I.C.12.f.

h. Other Information

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information. In addition, upon request, the Permittee shall furnish to the Department any information related to compliance with this permit.

13. Certification of Construction

The Permittee may not commence treatment, storage or disposal of hazardous waste or contaminated media at any new or modified portion of the facility until the Permittee has submitted to the Department, by certified mail or hand-delivery, a letter (together with the certification by the Construction Quality Assurance (CQA) officer required by ADEM Admin. Code Rule 335-14-5-.02(10)(d) and any other certifications required by this permit or ADEM Admin. Code Division 335-14 signed by the Permittee and an Alabama-registered Professional Engineer stating that the facility has been constructed or modified in compliance with this permit where appropriate; and,

a. The Department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of this permit; [ADEM Admin. Code Rule 335-14-8-.03(1)(1)2(ii)(I).] or

b. The Department has either waived the inspection or has not notified the Permittee, within 15 calendar days of the notification from the Permittee, of its intent to inspect. [ADEM Admin. Code Rule 335-14-8-.03(1)(1)2(ii)(II)]

14. The Permittee shall assure that all measures necessary to maintain and/or achieve compliance with all applicable requirements of ADEM Admin. Code Division 335-14 are taken during the active life of the facility, post-closure care period, corrective action period, and throughout the term of this permit.

15. In the event that circumstances beyond the Permittee's control arise to prevent achievement of any deadline set forth by this permit, the Permittee may immediately, upon the occurrence thereof, request an extension by sending a written request to the Department explaining the need for the extension. The Department may, after

DRAFT

consideration of the circumstances, grant the extension. Requests for extensions may require a permit modification pursuant to ADEM Admin. Code Rules 335-14-8-.04(2) or 335-14-8-.04(3).

I.D. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit if the information is protected under the Code of Alabama 1975, §22-30-18, as amended. The term "trade secret" as used in §22-30-18 is defined in the Code of Alabama 1975, §22-30-2(12).

I.E. DEFINITIONS

For the purposes of this permit, terms used herein shall have the same meaning as those in ADEM Admin. Code Chapters 335-14-1, 335-14-2, 335-14-5, and 335-14-8, unless this permit specifically provides otherwise. Where terms are not defined in the regulations or this permit, a standard dictionary reference or the generally accepted scientific or industrial meaning of the term shall define the meaning associated with such terms.

"Area of concern" (AOC), for the purposes of this permit, includes any area having a probable release of a hazardous waste or hazardous constituent which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Such areas of concern may require investigations and remedial action as required under Section 3005(c)(3) of the Resource Conservation and Recovery Act and ADEM Admin. Code Rule 335-14-8-.03(3)(b)2. to ensure adequate protection of human health and the environment.

"Contamination", for the purposes of this permit, refers to the presence of any hazardous constituent in a concentration that exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the facility (i.e., areas not affected by the facility).

"Corrective action", for the purposes of this permit, is the sum of all corrective measures necessary to protect human health and the environment for all releases of hazardous constituents from any SWMU at the facility, regardless of the time at which waste was placed in the unit, as required by ADEM Admin. Code Rules 335-14-5-.06(11) and/or 335-14-5-.06(12). Corrective measures may address releases to air, soils, surface water, or groundwater.

"Corrective Action Management Unit" (CAMU), for the purposes of this permit, includes any area within a facility that is designated by the Department under ADEM Admin. Code Rule 335-14-5-.19 for the purpose of implementing corrective action requirements under ADEM Admin. Code Rule 335-14-5-.06(12), §22-30-19 et seq., Code of Alabama 1975, and/or RCRA section 3008(h). A CAMU shall only be used for the management of remediation waste pursuant to implementing such corrective actions requirements at the facility.

"Corrective measures", for the purposes of this permit, include all individual measures taken and/or necessary to remedy releases and to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any SWMU at the facility, regardless of the time at which waste was placed in the unit, as required under ADEM Admin. Code Rule 335-14-5-.06(12). Corrective measures may address releases to air, soils, surface water, or groundwater. The sum of all individual corrective measures is known as corrective action.

DRAFT

"Extent of contamination", for the purposes of this permit, is defined as the horizontal and vertical areas in which the concentrations of hazardous constituents in the environmental media being investigated are above detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Department.

"Groundwater Protection Standard", for the purposes of this permit, refers to a groundwater concentration limit which is established pursuant to ADEM Admin. Code Rule 335-14-5-.06(3).

"Hazardous constituents", for the purposes of this permit, are those substances listed in ADEM Admin. Code Rule 335-14-2-Appendix VIII and/or ADEM Admin. Code Rule 335-14-5-Appendix IX and include hazardous constituents released from solid waste, hazardous waste, and hazardous waste constituents that are reaction by-products.

"Interim measures", for the purposes of this permit, are actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long term corrective action remedies are evaluated and, if necessary, implemented.

"Land Disposal", for the purposes of this permit, and ADEM Admin. Code Chapter 335-14-9 means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, underground mine or cave, or concrete vault or bunker intended for disposal purposes.

"Landfill", for the purposes of this permit, includes any disposal facility or part of a facility where hazardous waste is placed in or on the land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

"Land Use Controls", for the purposes of this permit, is as defined by ADEM Admin. Code Rule 335-15-1-.02.

"Method detection limit" (MDL), for the purposes of this permit, means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

"Non-regulated waste", for the purposes of this permit, means waste that is not otherwise regulated as RCRA listed and/or characteristic hazardous waste. In this case, non-regulated includes, but it not limited to, solid and universal waste, used oil, PCB, etc. Universal waste and used oil are subject to ADEM Admin. Code Chapter 335-14-11, Standards for Universal Waste Management and ADEM Admin. Code Chapter 335-14-17, Standards for the Management of Used Oil, respectively.

"Operating day", for the purposes of this permit, means any day on which hazardous waste is treated, stored, or disposed of in a unit. For example, each day that a hazardous waste storage unit contains hazardous waste is an operating day, as is each day that a disposal unit contains or receives hazardous waste, or each day that hazardous waste is treated in a treatment unit.

"Release", for the purposes of this permit, includes any spilling, leaking, pouring, emitting, emptying, discharging, injecting, escaping, leaching, pumping, or disposing into the environment of any hazardous waste or hazardous constituent.

DRAFT

"Remediation waste" for the purpose of this permit includes all SWMUs and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under ADEM Admin. Code Rule 335-14-5-.06(12) and RCRA Section 3008(h). For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing RCRA Sections 3004(v) or 3008(h) for releases beyond the facility boundary.

"Solid waste", for the purposes of this permit, means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials, including solid, liquid, semisolid, or contained gaseous materials resulting from industrial, commercial, mining, and agricultural operations, and from community activities. It does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

"Solid waste management unit" (SWMU), for the purposes of this permit, includes any unit that has been used for the treatment, storage or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. RCRA-regulated hazardous waste management units are also solid waste management units. SWMUs include areas that have been contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately remediated and cannot be linked to solid waste management activities (*e.g.*, product or process spills).

"Storm event", for the purposes of this permit, is defined as a 1-year, 24-hour storm event or rainfall that measures 1 inch or greater in 1 hour or less. Rainfall measurements may be taken at the site, or the closest official weather monitoring station may be used.

"Unit", for the purposes of this permit, includes any contiguous discernable area used for the management of hazardous waste (or non-hazardous waste in the case of a SWMU) and may include, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, wastewater treatment unit, elementary neutralization unit, transfer station, recycling unit or the OB and OD units.

DRAFT

I.F. EXPIRATION AND CONTINUATION OF PERMIT

This permit and all conditions herein will remain in effect beyond this permit's expiration date if the Permittee has submitted a new application as required by Permit Condition I.C.2. and, through no fault of the Permittee, the Department has not issued a new permit (ADEM Admin. Code Rules 335-14-8-.05(1) and 335-14-8-.05(2)).

I.G. WASTE MINIMIZATION

1. Certification Requirements

Pursuant to ADEM Admin. Code Rule 335-14-5-.05(4)(b)9, the Permittee must certify, no less often than annually, that:

a. The Permittee has a program in place to reduce the volume and toxicity of hazardous waste to the degree determined by the Permittee to be economically practicable; and,

b. The proposed method of treatment, storage, or disposal is the most practicable method available to the Permittee and that it minimizes the present and future threat to human health and the environment.

2. Recording Requirements

a. The Permittee shall maintain copies of this certification in the facility operating record as required by ADEM Admin. Code Rule 335-14-5-.05(4)(b)9.

b. The Waste minimization Program required under I.G.1. should at a minimum address the following topics:

i. Identity of each hazardous waste stream and the source of generation.

ii. Types and amount of hazardous waste that is generated at the facility.

iii. Present and proposed method of treatment, storage, or disposal that is available to the Permittee.

iv. Description of techniques implemented in the past for hazardous waste reduction and their effectiveness.

v. An evaluation of technically and economically feasible hazardous waste reduction techniques.

vi. A program and schedule for implementing the selected hazardous waste reduction technique.

DRAFT

I.H. COST ESTIMATES

1. The Permittee shall maintain detailed written cost estimates, in current dollars, at the location specified in Permit Condition I.C.10.e. and on file with ADEM in accordance with ADEM Admin. Code Rules 335-14-5-.08(3), 335-14-5-.08(5), and 335-14-5-.08(10).

2. All cost estimates must be updated annually as required by ADEM Admin. Code Rules 335-14-5-.08(3)(b), 335-14-5-.08(5)(b), and 335-14-5-.08(10)(b).

3. The cost estimate shall be maintained and submitted in the form designated by the Department.

4. The Permittee must update the cost estimate no later than 30 calendar days after the Department has approved a modification to the Closure Plan, Post-Closure Plan, or

Corrective Action Plan, or any other plan required or referenced by this permit, if the change in the plan results in an increase in the amount of the cost estimate.

I.I. FINANCIAL ASSURANCE

1. The Permittee shall demonstrate continuous compliance with ADEM Admin. Code Rule 335-14-5-.08 by providing documentation of financial assurance in at least the amount that equals or exceeds the cost estimate. Changes in financial assurance mechanisms must be approved by the Department.

2. The Permittee shall submit itemized statements for all capital expenditures and a complete, revised cost estimate to the Department when requesting approval for a reduction in the financial assurance mechanism.

I.J. PERMIT MODIFICATIONS

The Permittee shall request a permit modification whenever changes in operating plans or facility design affect any plan (*e.g.* groundwater monitoring, closure, post-closure, or corrective action) required or referenced by this permit. The Permittee must submit a written request for a permit modification, pursuant to the requirements of ADEM Admin. Code Rule 335-14-8-.04(2), at least 60 calendar days prior to the proposed change in facility design or operation.

I.K. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE DEPARTMENT

One hard copy and one electronic (an optical character recognition or text-searchable) copy of all reports, notifications, or other submissions that are required by this permit should be sent via certified mail or given to:

Chief, Land Division
Alabama Department of Environmental Management
P.O. Box 301463 (Zip 36130-1463)
1400 Coliseum Boulevard (Zip 36110-2059)
Montgomery, Alabama

and

Director, RCRA Division
USEPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, Georgia 30303-3104

DRAFT

PART II

POST-CLOSURE CARE

II.A. POST-CLOSURE CARE PERIOD

The post-closure care period shall extend for a period of thirty (30) years after the date of issuance of a post-closure permit unless shortened or extended pursuant to ADEM Admin. Code r. 335-14-5-.07(8). The post-closure care period shall automatically extend through the end of the compliance period specified in Part III of this permit.

II.B. POST-CLOSURE PROCEDURES AND USE OF PROPERTY

1. Post-Closure Activities

   The Permittee shall conduct post-closure care activities, in accordance with Section 8 of the permit application and as required by ADEM Admin. Code r. 335-14-5-.07 and 335-14-5-.14(11)(d), for each hazardous waste management unit listed in Table II.1. Post-closure care shall commence upon the effective date of this permit and shall continue throughout the post-closure care period.

2. Security

   The Permittee shall comply with the security provisions of ADEM Admin. Code r. 335-14-5-.02(5) and as described in Section 3 of the permit application.

3. Disturbance of Closed Unit(s)

   The Permittee shall not allow the disturbance of the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the post-closure care period for any unit identified in Table II.1.

4. The Permittee shall:

   a. Maintain the integrity and effectiveness of the landfills' final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, or other events;

   b. Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of ADEM Admin. Code r. 335-14-5-.06 and Part III of this permit;

   c. Prevent run-on and run-off from eroding or otherwise damaging the final cover; and,

   d. Protect and maintain surveyed benchmarks used in complying with the surveying and recordkeeping requirements of ADEM Admin. Code r. 335-14-5-.14(10).

DRAFT

e. Maintain the integrity and effectiveness of the gradient control system, synthetic lined cutoff wall in accordance with attachment R of the permit application.

II.C. INSPECTIONS

1. The Permittee shall inspect the components, structures, and equipment at the site in accordance with the inspection schedule as described in Section 4 of the permit application, the post-closure care plan as described in Section 8 of the permit application, and as required by ADEM Admin. Code Rules 335-14-5-.02(6) and 335-14-5-.07.

2. Monitoring and Inspection

The Permittee shall inspect the closed hazardous waste management unit(s) listed in Table II.1 at least monthly and after storms to detect any evidence of deterioration or improper operation as described in Section 4 of the permit application and as required under ADEM Admin. Code Rules 335-14-5-.02(6), 335-14-5-.07 and 335-14-5-.14. The inspections shall specifically include evaluation of the following items:

a. Integrity of the final cover (erosion, ponding, subsidence, cracking, *etc.*);

b. Growth and stabilization of vegetative cover;

c. Run-on and run-off control system;

d. Groundwater monitoring wells;

e. Survey benchmarks; and,

f. Facility fences, gates, survey marks, drainage ditches, activated Carbon, effluent system piping and pumps.

DRAFT

TABLE II.1

POST-CLOSURE CARE UNITS

UNIT NAME	UNIT DESCRIPTION	CAPACITY (QUANTITY	DESCRIPTION OF UNIT*	LOCATION OF UNIT*
Aeration Pond	RCRA-Regulated Surface Impoundments Closed as landfill	1,770 yd3	Section 1.1.4	Figure S-1
Vacuum Ponds	RCRA-Regulated Surface Impoundments Closed as landfill	3,270 yd3	Section 1.1.5	Figure S-1
Sand Filtration Beds	RCRA-Regulated Sludge Treatment Unit	50 yd3	Section 1.1.6	Figure S-1
Container Storage Area	RCRA Storage Area	700 ft2	Section 1.1.7	Figure S-1

* Location in permit application containing description (text) and location (figure) of unit.

** These individual units were closed as a single landfill in accordance with Rules 335-14-6-.11(9) and 335-14-6-.14(11).

DRAFT

PART III

GROUNDWATER MONITORING AND CORRECTIVE ACTION

III.A. REQUIRED PROGRAM(S)

1. Groundwater monitoring shall consist of the General Groundwater Monitoring Program of Permit Condition III.B., and the Corrective Action Monitoring Program contained in Permit Condition III.E as applicable.

2. The Permittee shall continue groundwater monitoring as required by this permit not later than 120 calendar days after the effective date of this permit.

III.B. GENERAL GROUNDWATER MONITORING PROGRAM

1. Well Location, Installation and Construction

The Permittee shall install and/or maintain a groundwater monitoring system to comply with the requirements of ADEM Admin. Code Rules 335-14-5-.06(8), 335-14-5-.06(9), 335-14-5-.06(10), and 335-14-5-.06(11) as applicable and as specified below:

a. The Permittee shall maintain all groundwater monitoring wells at the facility as identified in Table III.1. of this permit, at the locations specified on Figures P-1 of the permit application, and any other groundwater monitoring wells specified by Permit Condition III.B.1.d.

i. All groundwater monitoring wells shall be maintained and inspected in accordance with the plans and specifications presented in Section 8 of the permit application and in accordance with ADEM Admin. Code Rule 335-14-5-.06.

ii. A groundwater monitoring well shall not be removed from any monitoring program specified in this permit without an approved permit modification pursuant to Permit Condition I.J.

iii. If a groundwater monitoring well is damaged, the Permittee shall immediately notify the Department in writing, which includes a description of the well repair activities to be conducted. The well repair procedures must be approved by the Department prior to implementation. Within 30 calendar days after the well is repaired, the Permittee shall submit a written notification to the Department that the well repair activities were conducted in accordance with the approved procedures.

iv. If a groundwater monitoring well is deleted from the monitoring program(s) required by this permit in accordance with Permit Conditions III.B.1.a.ii. and I.J., it shall be abandoned within 90 calendar days after deletion using procedures to be approved by the Department. Within 30 calendar days after the well is abandoned, the Permittee shall submit a

DRAFT

written notification to the Department that the well abandonment activities were conducted in accordance with the approved procedures.

b. Groundwater monitoring wells RC-1, RC-1A, RC-2, RC-2A, RC-3, RC-3A, RW-1, and RW-2 shall define the point of compliance for the Aeration Pond, Vacuum Ponds, Sand Filtration Beds, and the Container Storage Area, which were all closed as a single landfill.

c. The Permittee shall maintain groundwater monitoring well UG-2 as the background monitoring well for the entire facility as specified in Attachment P of the permit application.

d. The Permittee shall install and maintain additional groundwater monitoring wells as necessary to assess changes in the rate and extent of any plume of contamination or as otherwise deemed necessary to maintain compliance with ADEM Admin. Code Rules 335-14-5-.06(6), 335-14-5-.06(8), 335-14-5-.06(9), 335-14-5-.06(10), and 335-14-5-.06(11), as applicable. A plan in the form of a permit modification request specifying the design, location and installation of any additional monitoring wells should be submitted to the Department at least 90 calendar days prior to installation which, at a minimum, shall include:

   i. Well construction techniques including casing depths and proposed total depth of well(s);

   ii. Well development method(s);

   iii. A complete description of well construction materials;

   iv. A schedule of implementation for construction; and,

   v. Provisions for determining the lithologic characteristics, hydraulic conductivity, grain size distribution, and porosity for the applicable aquifer unit(s) at the location of the new well(s).

e. The Permittee shall install and/or designate wells AS-3 and AS-4 as recovery wells within 90 days of the effective date of this permit. The well construction and location will follow the specifications shown in Attachment R of the permit application. After the installation of these wells is completed, and within 120 calendar days after the effective date of this permit, the Permittee shall submit a report to the Department that includes the surveyed location and elevation, surveyed elevation reference point, total depth, screened interval, well log, and other pertinent information for each well installed. All location and elevation data shall be surveyed by a professional surveyor licensed in the State of Alabama. Elevation data shall be recorded and reported as mean sea level (MSL) and referenced to an appropriate national geodetic vertical datum (NGVD) benchmark. Location data shall include latitude and longitude. The report shall be accompanied by a request for a minor permit modification in accordance with ADEM Admin Code Rule 335-14-8-.04(3) and Permit Condition I.J.

DRAFT

f. The Permittee shall abandon well(s) AS-1, AS-2, AS-5, AS-6, AS-7, AS-8, AS-9, AS-10, RW-20, RW-21, RW-23, RW-24, RW-25, RW-28, RW-29, RW-30, RW-31, RW-32, RW-33, and RW-34, using procedures to be approved by the Department, within 90 calendar days after the effective date of this permit. After the abandonment of these wells is completed, and within 120 calendar days after the effective date of this permit, the Permittee shall submit a report to the Department which includes a detailed description of the well abandonment activities conducted.

2. General Groundwater Monitoring Requirements

a. The Permittee shall determine the groundwater surface elevation from all monitoring wells listed in Table III.1. of this permit at least annually and each time a sampling event is conducted. The results of these determinations should be submitted in accordance with Permit Condition III.B.6. Elevation data should be recorded and reported as mean sea level (MSL) and referenced to an appropriate national geodetic vertical datum (NGVD) benchmark.

b. The Permittee shall determine the groundwater flow rate and direction in the underlying aquifer(s) at least annually and submit the results in accordance with Permit Condition III.B.6.

c. The Permittee shall determine background concentrations of hazardous constituents and other chemical parameters required to be monitored by this permit in accordance with Attachment P of the permit application and ADEM Admin. Code Rule 335-14-5-.06(8)(g).

3. Groundwater Protection Standard

a. The groundwater protection standard, as required under ADEM Admin. Code Rule 335-14-5-.06(3), shall consist of Table III.3 of this permit which lists the hazardous constituents and their respective concentration limits.

b. The groundwater protection standard applies to all hazardous waste or hazardous constituent releases as deemed appropriate by the Department to protect human health and the environment.

4. Compliance Period

a. The compliance period, during which the groundwater protection standard specified in Permit Condition III.B.3. applies, shall begin at the time of the first sampling event of the compliance monitoring program (Permit Condition III.D.), or the corrective action monitoring program (Permit Condition III.E.), whichever is earlier.

b. The compliance period shall continue (after beginning pursuant to Permit Condition III.B.4.a.) until the groundwater protection standard as defined by Permit Condition III.B.3.a. has not been exceeded for a period of three consecutive years.

DRAFT

c. If the Permittee is engaged in a corrective action program pursuant to Permit Condition III.E., then the compliance period shall continue as required by ADEM Admin. Code Rule 335-14-5-.06(7)(c) until the groundwater protection standard has not been exceeded for a period of three consecutive years after corrective action has been terminated and this permit has been modified, in accordance with Permit Condition I.J., to implement a compliance monitoring program pursuant to Permit Condition III.D. or a detection monitoring program pursuant to Permit Condition III.C., as required by ADEM Admin. Code Rule 335-14-5-.06(11)(f).

5. Sampling and Analysis Procedures

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the groundwater monitoring wells described in Permit Condition III.B.1. to provide a reliable indication of the quality of the groundwater as required under ADEM Admin. Code Rules 335-14-5-.06(8)(d), (e), and (g):

a. Samples shall be collected, preserved, and shipped (when shipped off-site for analysis) in accordance with the procedures specified in Attachment P of the permit application.

b. Samples shall be analyzed according to the procedures specified in Attachment P of the permit application, the most recent edition of SW-846 or other appropriate methods approved by the Department. Analytical method detection limits shall be less than, or equal to the groundwater protection standards specified in Table III.3., unless otherwise approved in writing by the Department.

c. Samples shall be tracked and controlled using the chain-of-custody procedures specified in Attachment P of the permit application.

d. Statistical analyses used to evaluate the groundwater monitoring data shall be as described in Attachment P of the permit application and ADEM Admin. Code Rule 335-14-5-.06(8)(h).

e. All samples taken in accordance with this permit shall not be filtered prior to analysis.

6. Recordkeeping and Reporting

a. The Permittee shall keep and maintain all monitoring, testing, and analytical data obtained in accordance with Permit Conditions III.B., III.C., III.D., and III.E. as required by Permit Condition I.C.10.

b. The Permittee shall submit to the Department a written report to include all analytical sampling data, established background values, statistical evaluations, groundwater elevations, associated potentiometric maps, and the annual groundwater flow rate and direction determinations. The analytical method and the method detection limit (MDL) for each constituent must be integrated into all reports of analysis. The report shall be submitted within 60 calendar days after the first sampling event and on an annual basis thereafter. Copies of this report shall be kept at the facility in accordance with Permit Conditions I.C.10.c. and I.C.10.e.

DRAFT

c. The Permittee shall submit progress reports to the Department describing implementation of groundwater monitoring and/or corrective action activities at the site as required by Part III of this permit on a quarterly basis. The first progress report shall be submitted to the Department within 90 calendar days after the effective date of this permit. The progress reports shall continue until such time as the required monitoring and/or corrective action systems and activities required by this permit are fully constructed and operational. In the event that additional monitoring and/or corrective action requirements are imposed through a permit modification, in accordance with Permit Condition I.J., the quarterly reporting requirement shall resume, commencing upon the effective date of the permit modification and continuing until the required monitoring and/or corrective action systems and activities are again fully constructed and operational.

III.C. DETECTION MONITORING PROGRAM [RESERVED]

III.D. COMPLIANCE MONITORING PROGRAM [RESERVED]

III.E. CORRECTIVE ACTION MONITORING PROGRAM

The requirements of this Condition are applicable to the entire facility. Except as specified otherwise in this permit, the Corrective Action Monitoring Program shall be implemented in accordance with Attachment R of the permit application and ADEM Admin. Code Rule 335-14-5-.06(11).

1. Monitoring Systems

In addition to the point of compliance and background well monitoring systems identified in Permit Conditions III.B.1.b. and III.B.1.c., the Permittee shall:

a. Maintain groundwater monitoring wells E-2, RW-3B, RW-8A, B-24, B-25, B-36, B-60A, B-65, B-97, B-101, B-108A, and B-128 as boundary wells for the entire facility as specified in Table III.1. of this permit and as shown on Figure P-1 of the permit application.

b. Maintain groundwater monitoring wells E-1, RW-3A, RW-4, RW-5, T-1, and T-2 as effectiveness wells as specified in Table III.1. of this permit and as shown on Figure P-1 of the permit application.

c. Maintain wells A-1, A-2, A-3, A-4, A-5, A-6, AS-3, AS-4 , E-1, GC SUMP, CO-7, CO-10, RC-2, RC-3, RW-1, RW-2, RW-3A, RW-3B, RW-4, RW-5, RW-6, RW-7, RW-8, RW-8A, RW-9, RW-10, RW-11, RW-12, RW-13, RW-18, RW-19, RW-35, RW-36, RW-37, T-1, and T-2 as recovery wells and maintain wells A-1, A-2, A-3, A-4, A-5, A-6, I-1, I-2A, I-3, and B-48A, as injection wells as specified in Table III.1. of this permit and as shown on Figure P-1 of the permit application.

DRAFT

d. Maintain wells RC-1, RC-1A, RC-2, RC-2A, RC-3, RC-3A, RW-1, and RW-2 as point of compliance wells as specified in Table III.1. of this permit and as shown on Figure P-1 of the permit application

2. Corrective Action Program

a. The Permittee shall conduct a Corrective Action Program, as described in Attachment R of the permit application, to remove or treat in place all hazardous constituents that exceed their respective groundwater protection standards as described in Table III.3. of this permit at the point of compliance, between the point of compliance and the down-gradient facility property boundary, and beyond the facility boundary in accordance with ADEM Admin. Code Rule 335-14-5-.06(11)(e).

b. Pursuant to ADEM Admin. Code Rules 335-14-5-.06(11)(c) and 335-14-5-.06(11)(e)3., the Permittee shall continue to implement the corrective action program as described in Attachment R of the permit application within 120 calendar days after the effective date of this permit.

c. The Permittee shall handle/treat groundwater in accordance with Attachment R of the permit application and with the applicable requirements of NPDES and UIC permit number(s) AL0001104 and ALSI 9949454 respectively, as issued by the Department.

3. Monitoring Requirements

In addition to the general groundwater monitoring requirements specified in Permit Condition III.B.2., the Permittee shall:

a. Sample all point of compliance, effectiveness, and boundary monitoring wells shown in Table III.1. of this permit and analyze for the constituents listed in Table III.2. of this permit on a semi-annual basis beginning within 120 calendar days of the effective date of this permit and continuing through the end of the compliance period.

b. Sample all background, point of compliance, effectiveness, and boundary monitoring wells shown in Table III.1. of this permit and analyze for the constituents listed in Table III.2. of this permit on an annual basis beginning within 120 calendar days of the effective date of this permit and continuing through the end of the compliance period.

c. Sample all background, point of compliance, effectiveness, and boundary monitoring wells shown in Table III.1. of this permit and analyze for temperature (degrees F or C), specific conductance (Mhos/cm), and pH (standard units) each time the well is sampled. The data obtained should be submitted as raw data in the reports required by Permit Condition III.B.6.

d. When evaluating the monitoring results to determine the effectiveness of the corrective measures, in accordance with Permit Condition III.E.4., the Permittee shall:

DRAFT

i. Determine if the corrective action system effectively addresses the entire plume of contamination;

ii. Determine if the concentration of the hazardous constituents are decreasing (pH increasing or decreasing toward neutrality, as applicable) in the effectiveness wells specified in Permit Condition III.E.1.;

iii. Determine if hazardous waste or hazardous constituents are being released into the environment; and

iv. Determine if hazardous constituents have been detected in the boundary wells specified in Permit Condition III.E.1.

4. Reporting and Response Requirements

In addition to the recordkeeping and reporting requirements specified in Permit Condition III.B.6.:

a. The Permittee shall report the effectiveness of the corrective action program annually, as required under ADEM Admin. Code Rule 335-14-5-.06(11)(g). These reports shall be submitted to the Department within 60 calendar days of each annual anniversary of this permit after corrective action is initiated and continue until corrective action is completed. The Permittee must provide data from groundwater monitoring along with an analysis of that data and any conclusions regarding the effectiveness of the program in accordance with Permit Condition III.E.3.d. If the analysis of the data warrants any change to the corrective action program, the Permittee must include these revisions in the annual report which will be followed up within 90 calendar days with an application for permit modification in accordance with Permit Condition I.J.

b. If corrective action is terminated under Permit Condition III.B.4.c., the Permittee must sample all background, point of compliance, effectiveness and boundary sampling locations for the compounds listed in ADEM Admin. Code Rule 335-14-5-Appendix IX. Based upon the sampling results, the Permittee may petition the Department, in accordance with Permit Condition I.J, for a permit modification to implement either a detection monitoring program or a compliance monitoring program.

DRAFT

TABLE III.1

MONITORING WELL DESIGNATIONS

WELL NUMBER	WELL TYPE *	WELL LATITUDE (degree)	WELL LONGITUDE (degree)	WELL DEPTH (ft)	GROUND ELEVATION (ft. MSL)	TOP-OF-RISER ELEVATION (ft. MSL)	SCREENED INTERVAL (ft. blgs)	MONITORED ZONE
A-1	R/I	30.72918	-88.05022	32.62	14.66	14.05	-4.4 to -14.4	UA
A-2	R/I	30.72888	-88.05039	36.23	16.57	16.16	0 to -20	UA
A-3	R/I	30.72859	-88.05046	36.35	15.51	14.77	0.2 to -19.8	UA
A-4	R/I	30.72827	-88.05038	31.10	13.91	13.48	-4.3 to -14.3	UA
A-5	R/I	30.72812	-88.04992	34.64	16.80	16.60	+4.6 to -15.4	UA
A-6	R/I	30.72845	-88.04962	28.97	15.07	14.87	-1.6 to -11.6	UA
AS-3	R	30.72848	-88.05037	29	19	17.33	-12.78 to -15.78	UA
AS-4	R	30.72895	-88.0501	29	19.02	16.8	-13.13 to -16.13	UA
DG-1A	P	30.72690	-88.04887	42.20	7.17	7.24	-30.4 to -35.4	UL
E-1	E/R	30.72949	-88.05022	32.52	16.3	16.34	-5.2 to -15.2	UA
E-2	B	30.72746	-88.04991	30.97	9.25	9.31	-15.6 to -20.6	UA
GC SUMP	R	30.72788	-88.05001	NA	12.64	12.44	NA	UA
CO-7	R	NA	NA	NA	12.53	12.41	NA	UA
CO-10	R	NA	NA	NA	18.15	17.79	NA	UA
I-1	I	30.72847	-88.04943	31.0	9.77	9.63	-11.5 to -21.5	UA
I-2A	I	30.72926	-88.05055	80.7	11.04	11.01	-40.0 to -69.0	UL
I-3	I	30.72881	-88.05072	64.8	9.98	9.93	-26.5 to -56.5	UL
RC-1	C	30.72824	-88.04951	33.98	11.96	11.9	-10.9 to -20.9	UA
RC-1A	C	30.72827	-88.04951	52.78	11.83	11.86	-30.8 to -40.8	UL
RC-2	C/R	30.72780	-88.05010	28.91	12.268	12.08	-5.2 to -15.2	UA
RC-2A	C	30.72781	-88.05014	51.21	13.46	13.38	-26.7 to -36.7	UL
RC-3	C/R	30.72803	-88.05048	28.68	9.78	9.66	-11.7 to -16.7	UA
RC-3A	C	30.72802	-88.05047	47.54	10.28	10.3	-27.1 to -37.1	UL
RW-1	C/R	30.72946	-88.05039	25.43	12.58	12.52	+6.5 to -13.5	UA
RW-2	C/R	30.72947	-88.05042	58.50	13.2	13.29	-25.5 to -45.5	UL
RW-3A	E/R	30.72845	-88.05045	60.02	15.52	15.53	-23.4 to -43.4	UL
RW-3B	B/R	30.72846	-88.05047	112	14.91	14.93	-74.9 to -94.9	LL
RW-4	E/R	30.72851	-88.04997	65.94	20.05	20.08	-25.2 to -45.2	UL
RW-5	E/R	30.72801	-88.04984	64.59	16.19	16.17	-28.5 to -48.5	UL
RW-6	R	30.72763	-88.04998	29.12	10.62	10.61	-5.9 to -15.9	UA
RW-7	R	30.72981	-88.05011	31.51	8.34	8.4	-12.0 to -22.0	UL/UA
RW-8	R	30.72774	-88.04891	44.52	4.51	4.4	-30.6 to -40.6	UL
RW-8A	B/R	30.72779	-88.04884	44.24	4.78	4.78	-30.0 to -40.0	UL
RW-9	R	30.72705	-88.04899	42.79	4.19	4.22	-27.0 to -37.0	UL
RW-10	R	30.72748	-88.04936	37.80	5.21	5.19	-29.6 to -39.6	UL

DRAFT

TABLE III.1

MONITORING WELL DESIGNATIONS (cont.)

WELL NUMBER	WELL TYPE *	WELL LATITUDE	WELL LONGITUDE	WELL DEPTH (ft)	GROUND ELEVATION (ft. MSL)	TOP-OF-RISER ELEVATION (ft. MSL)	SCREENED INTERVAL (ft. blgs)	MONITORED ZONE
RW-11	R	30.72689	-88.04988	20.33	4.92	4.90	0 to -15	UA
RW-12	R	30.72696	-88.05001	19.01	5.39	5.44	0.5 to -14.5	UA
RW-13	R	30.72699	-88.05025	21.09	4.15	4.10	-0.6 to -15.6	UA
RW-18	R	30.7286	-88.04976	30	19.74	16.60	2.81 to -12.19	UA
RW-19	R	30.72816	-88.05	32	20.40	18.25	0.53 to -15.53	UA
RW-35	R	30.72794	-88.04949	51.5	8.95	6.36	-30.5 to -45.5	UL
RW-36	R	30.72821	-88.04939	51.5	8.40	6.18	-30.75 to -45.75	UL
RW-37	R	30.72854	-88.04926	51.5	8.00	6.06	-30.58 to -45.58	UL
UG-1	P	30.73002	-88.04796	30.95	7.53	7.26	-18 to -23	UL/UA
UG-2	X	30.73040	-88.04977	22.96	8.27	8.32	-9.4 to -14.4	UL/UA
T-1	E/R	30.73109	-88.04771	NA	9.72	9.74	NA	UA
T-2	E/R	30.72847	-88.04926	NA	6.43	6.48	NA	UA
B-24	B	30.72762	-88.05038	97.09	6.27	7.35	-77.8 to -92.8	LL
B-25	B	30.72749	-88.04973	109.03	7.36	4.75	-88.9 to -103.9	LL
B-26	P	30.72718	-88.04917	86.90	4.75	4.75	-62.2 to -82.2	IL
B-27	P	30.72841	-88.04870	92.76	6.58	6.37	-60.3 to -80.3	LL
B-29	P	30.72714	-88.05015	49.10	4.51	6.68	-33.3 to -43.3	UL
B-36	B	30.72696	-88.04990	41.79	6.69	6.76	-24.9 to -34.9	UL
B-37	P	30.72716	-88.05057	46.69	7.01	6.98	-30.1 to -40.1	UL
B-48A	I	30.72820	-88.05092	44.5	4.93	4.86	-34.6 to -39.6	UL
B-59A	P	30.72850	-88.05093	120.01	7.82	7.79	-97.5 to -112.5	LL
B-60A	B	30.72824	-88.05088	85.5	6.21	6.18	-64.7 to 79.9	LL
B-61	P	30.72773	-88.05058	86.52	4.35	6.07	-65.6 to -80.6	LL
B-64A	P	30.72821	-88.05087	62.13	5.76	5.76	-39.8 to -54.8	IL
B-65	B	30.72774	-88.05059	61.8	6.13	6.09	-40.4 to -55.4	IL
B-94	P	30.72932	-88.04982	24.89	8.03	8.08	-7.4 to -17.4	UA
B-97	B	30.72773	-88.05065	30.01	5.93	5.54	-14 to -24	UA
B-101	B	30.72716	-88.04915	48.68	4.76	4.78	-39.1 to -44.1	UL

DRAFT

TABLE III.1

MONITORING WELL DESIGNATIONS (cont.)

WELL NUMBER	WELL TYPE *	WELL LATITUDE (degree)	WELL LONGITUDE (degree)	WELL DEPTH (ft)	GROUND ELEVATION (ft. MSL)	TOP-OF-RISER ELEVATION (ft. MSL)	SCREENED INTERVAL (ft. blgs)	MONITORED ZONE
B-102	P	30.72716	-88.04878	43.90	8.47	8.54	-26.1 to -36.1	UL
B-103	P	30.72676	-88.04890	44.83	6.33	6.36	-29.2 to -39.2	UL
B-104	P	30.72727	-88.05037	19.87	6.23	6.23	-3.7 to -13.7	UA
B-108A	B	30.72834	-88.04903	28.99	5.36	5.42	-18.7 to -23.7	UA
B-110	P	30.72988	-88.04961	24.89	7.32	7.31	-7.9 to -17.9	UA
B-111	P	30.72864	-88.04842	33.36	6.94	7.03	-15.9 to -25.9	UL
B-114	P	30.73019	-88.05029	39.91	9.45	9.45	-20.6 to -30.6	UL
B-116	P	30.72899	-88.04888	42.00	5.13	5.94	-25.7 to -35.7	UL
B-128	B	30.72755	-88.04935	24.82	5.47	5.51	-9.5 to -19.5	UA
B-139	P	30.73043	-88.04980	32.94	9.73	9.77	-13.3 to -23.3	UA
B-140	P	30.72815	-88.05092	28.53	5.68	5.35	-12 to -22	UA

B - Boundary Wells
C - Point of Compliance Wells
E - Effectiveness Wells
I - Injection Wells
P - Piezometer Wells
R – Recovery Wells
X - Background Wells
UA - Upper Aquifer
UL - Upper portion of Lower Aquifer
IL - Intermediate portion of Lower Aquifer
LL - Lower portion of Lower Aquifer
*Recovery wells will be sampled on rotating basis. Half of the recovery wells will be sampled on even years and the other half on odd years, so that all recovery wells will be sampled over the span of two years.
**Air sparger wells AS-3 and AS-4 are proposed to be converted into recovery wells.

DRAFT

TABLE III.2

GROUNDWATER QUALITY MONITORING CONSTITUENTS*

HAZARDOUS CONSTITUENT
Acenaphthene
Acenaphthylene
Anthracene
Arsenic
Benzene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Bis-(2-ethylhexyl)phthalate
Carbazole
Chromium
Chrysene
2,4-dimethylphenol
2,4-dinitrophenol
Dibenzo(a,h)anthracene
Dibenzofuran
di-n-octyl-phthalate
Ethylbenzene
Fluoranthene
Fluorene
Indeno(1,2,3-c,d)pyrene
Lead
2-methyl naphthalene
m-cresol
Naphthalene
Nickel
o-cresol
p-chloro-m-cresol
p-cresol
Pentachlorophenol
Phenanthrene
Pyrene
2,4,6-trichlorophenol

The constituents listed herein are the subset of the Groundwater Protection Standard listed in Table III.3 for which monitoring is required.

DRAFT

TABLE III.3

GROUNDWATER PROTECTION STANDARD

HAZARDOUS CONSTITUENT	CONCENTRATION LIMIT (mg/L)
Arsenic	1.0E-02*
Acenaphthene	5.3E-02 **
Acenaphthylene	5.3E-02****
Anthracene	1.8E-01 **
Benzene	5.0E-03*
Benzo(a)anthracene	3.0E-05 **
Benzo(a)pyrene	2.0E-04*
Benzo(b)fluoranthene	2.5E-04**
Benzo(k)fluoranthene	2.5E-03**
Bis-(2-ethylhexyl)phthalate	6.0E-03*
Carbazole	3.4E-03*****
Chromium	1.0E-01*
Chrysene	2.5E-02**
2,4-dimethylphenol	3.6E-02**
2,4-dinitrophenol	3.9E-03**
Dibenz(a,h)anthracene	2.5E-05**
Dibenzofuran	7.9E-04**
di-n-octyl-phthalate	2.0E-02**
Ethylbenzene	7.0E-01*
Fluoranthene	8.0E-02**
Fluorene	2.9E-02 **
Indeno(1,2,3-cd)pyrene	2.5E-04**
Lead	1.0E-02*
2-methylnaphthalene	3.6E-03**
m-cresol	9.3E-02**
Naphthalene	1.2E-04**
Nickel	1.00E-1***
o-cresol	9.3E-02**
p-chloro-m-cresol	1.4E-01**
p-cresol	3.7E-02**
Pentachlorophenol	1.0E-03*
Phenanthrene	1.5****
Pyrene	1.2E-02**
2,4,6-trichlorophenol	1.2E-03**

* Derived from EPA Regional Screening Level Summary Table (TR=1E-6, HQ=0.1) November 2024 Maximum Contaminant Level (MCL)
** Derived from EPA Regional Screening Level Summary Table (TR=1E-6, HQ=0.1) November 2024 Tap water RSL
*** Derived from ADEM Admin. Code r. 335-7-2 (Primary Drinking Water Standards)
**** This constituent does not appear to be present in the November 2024 Regional Screening Level Table. This value is from the Health Risk-Based Action Levels, April 1995, Attachment Q of permit application
***** This constituent does not appear to be present in the November 2024 Regional Screening Level Table. This value is from the April 2008 version of the Alabama Risk-Based Corrective Action Guidance Manual.

DRAFT

PART IV

SOLID WASTE MANAGEMENT UNIT IDENTIFICATION AND EVALUATION

IV.A. APPLICABILITY

The Conditions of this Part apply to:

1. The solid waste management units (SWMUs) and areas of concern (AOCs) identified in Table IV.1, which require investigation and/or remediation;

2. The SWMUs identified in Table IV.2, which require no further action under this permit at this time;

3. Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means; and,

4. Contamination beyond the facility boundary, if applicable. The Permittee shall implement corrective actions beyond the facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Department that, despite the Permittee's best efforts, as determined by the Department, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for completion of such off-site corrective action will be required.

IV.B. NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUs AND AOCs

1. The Permittee shall notify the Department in writing, within 15 calendar days of discovery, of any additional AOC(s) as described under Permit Condition IV.A.3. The notification shall include, at a minimum, the location of the AOC(s) and all available information pertaining to the nature of the release (*e.g.,* media affected, hazardous constituents released, magnitude of release, *etc.*). If the Department determines that further investigation of an AOC is required, the permit will be modified in accordance with ADEM Admin. Code r. 335-14-8-.04(2).

2. The Permittee shall notify the Department in writing, within 15 calendar days of discovery, of any additional SWMUs as described under Permit Condition IV.A.3.

3. The Permittee shall prepare and submit to the Department, within 90 calendar days of notification, a SWMU Assessment Report (SAR) for each SWMU identified under Permit Condition IV.B.2. At a minimum, the SAR shall provide the following information:

   a. Location of unit(s) on a topographic map of appropriate scale such as required under ADEM Admin. Code r. 335-14-8-.02(5)(b)19.

DRAFT

b. Designation of type and function of unit(s).

c. General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).

d. Dates that the unit(s) was operated.

e. Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous constituents in the wastes.

f. All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include groundwater data, soil analyses, air, and/or surface water data).

4. Based upon the results of the SAR, the Department shall determine the need for further investigations at the SWMUs covered in the SAR. If the Department determines that such investigations are needed, the Permittee shall initiate an investigation as outlined in Permit Condition IV.D.1 immediately upon receiving notification of the Department's determination.

IV.C. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT PREVIOUSLY IDENTIFIED SWMUs or AOCs

1. The Permittee shall notify the Department in writing of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, within 15 calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Permit Condition IV.A.3 or SWMUs or AOCs identified in Permit Condition IV.A.2 for which further investigation was not required.

2. If the Department determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall initiate an investigation as outlined in Permit Condition IV.D. immediately upon receiving notification of the Department's determination.

IV.D. RCRA FACILITY INVESTIGATION (RFI)

1. The Permittee must perform an RFI for any SWMU and AOC identified by the Department in accordance with Permit Conditions IV.A.1, IV.B.4, and IV.C.2.

2. The RFI must completely identify the concentration of hazardous constituents released from each SWMU and AOC and fully delineate the area where such hazardous constituents have come to be located.

3. The RFI must fully characterize the nature and extent of contamination released from each SWMU or AOC under investigation.

4. The RFI must be performed in a manner consistent with the most recent edition of the Alabama Environmental Investigation and Remediation Guidance (AEIRG).

DRAFT

5. Except as provided by Permit Condition IV.D.6., the RFI must be completed within 180 calendar days from the effective date of this permit or, for SWMUs or AOCs identified pursuant to Permit Condition IV.B. and C., within 180 calendar days from the receipt of notification from the Department that an RFI is required. If, prior to the effective date of this permit, the Department has approved a work plan that includes a schedule for completing the RFI, the RFI shall be completed in accordance with the approved schedule.

6. RFI Schedule of Compliance

   a. For RFIs expected to require greater than 180 calendar days to complete, the Permittee may submit a schedule of compliance subject to Departmental approval and/or modification.

   b. Submittal of an RFI Schedule of Compliance does not delay or otherwise postpone the Permittee's obligation to initiate the RFI.

   c. The Schedule of Compliance must include:

      i. A detailed narrative discussion, which explains why the RFI cannot be completed within 180 days; and,

      ii. A detailed and chronological listing of milestones with estimated durations that provides sufficient information to track the progress of the investigation.

   d. The RFI Schedule of Compliance shall be reviewed by the Department in accordance with Permit Condition IV.G.

   e. The Permittee shall complete the RFI in accordance with the approved RFI Schedule of Compliance.

7. RFI Progress Reports

   a. For an RFI being conducted in accordance with the approved RFI Schedule of Compliance, the Permittee must submit progress reports on a monthly basis.

   b. The RFI Progress Reports must include:

      i. A description of the RFI activities completed during the reporting period;

      ii. Summaries of any problems or potential problems encountered during the reporting period;

      iii. Actions taken to rectify problems;

      iv. Changes in relevant personnel;

      v. Projected work for the next reporting period;

DRAFT

vi. Any proposed revisions to the RFI Schedule of Compliance. Modifications of the RFI Schedule of Compliance are subject to approval by the Department; and,

vii. A summary of any data collected during the reporting period, including:

A. The location of each sampling point identified on a site map; and

B. The concentration of each hazardous constituent detected at each sampling point;

c. Submittal of RFI Progress Reports, work plans, or other documents during the RFI does not alter the approved RFI Schedule of Compliance.

8. RFI Reports

a. The Permittee shall prepare and submit to the Department an RFI Report within 60 calendar days from the completion of investigation activities in accordance with the approved RFI Schedule of Compliance, if applicable.

b. The RFI Report must provide a detailed description of all required elements of the investigation as described in the most recent edition of the AEIRG.

c. The RFI Report shall be reviewed by the Department in accordance with Permit Condition IV.G.

IV.E. SELECTION OF CORRECTIVE MEASURES AND PERMIT MODIFICATION

1. The Permittee shall develop and submit to the Department a Corrective Measures Implementation (CMI) Plan for any areas of the Permittee's site where hazardous constituents have come to be located at concentrations exceeding those appropriate for the protection of human health and the environment. The CMI Plan must include all applicable elements of the proposed remedy pursuant to the most recent edition of the AEIRG.

2. The CMI Plan shall be submitted to the Department within 120 calendar days following the Permittee's submittal of the RFI Report indicating that hazardous constituents have come to be located at any area of the Permittee's facility, or beyond the facility, at concentrations exceeding those appropriate for the protection of human health and the environment, or within 120 calendar days following notification from the Department that a CMI Plan is required, whichever occurs earlier.

3. The CMI Plan shall be submitted along with a request for permit modification pursuant to ADEM Admin. Code r. 335-14-8-.04(2), and shall include any applicable fees pursuant to ADEM Admin. Code Chapter 335-1-6. This modification will serve to incorporate the proposed final remedy, including all procedures necessary to implement and monitor the remedy, into this permit.

4. Within 60 calendar days after this Permit has been modified in accordance with Permit Condition IV.E.3., the Permittee shall demonstrate financial assurance for completing the approved remedy.

DRAFT

IV.F. INTERIM MEASURES (IM)

1. IM Work Plan(s)

   a. Upon notification by the Department, the Permittee shall prepare and submit an Interim Measures (IM) Work Plan for any SWMU or AOC that the Department determines is necessary. IM are necessary in order to minimize or prevent further migration of contaminants and limit human and environmental exposure to contaminants while long-term corrective measures are evaluated and, if necessary, implemented. The IM Work Plan shall be submitted within 30 calendar days of such notification and shall include the elements listed in Permit Condition IV.F.1.b. Such IM may be conducted concurrently with investigations required under the terms of this permit. The Permittee may initiate IM by submitting an IM Work Plan for approval and reporting in accordance with the requirements under Permit Condition IV.F.

   b. The IM Work Plan shall ensure that the IM are designed to mitigate any current or potential threat(s) to human health or the environment and is consistent with and integrated into any long-term solution at the facility. The IM Work Plan shall include: the IM objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.

   c. The IM Work Plan must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan.

   d. The IM Report shall be reviewed by the Department in accordance with Permit Condition IV.G.

2. IM Implementation

   a. The Permittee shall implement the IM in accordance with the approved IM Work Plan.

   b. The Permittee shall give notice to the Department as soon as possible of any planned changes, reductions or additions to the IM Work Plan.

   c. Final approval of corrective action required under ADEM Admin. Code r. 335-14-5-.06(12), which is achieved through IM, shall be in accordance with ADEM Admin. Code r. 335-14-8-.04(2) and Permit Condition IV.E.

3. IM Reports

   a. If the time required for completion of IM is greater than one year, the Permittee shall provide the Department with Progress Reports at intervals specified in the approved work plan. The Progress Reports shall, at a minimum, contain the following information:

      i. A description of the portion of the IM completed;

DRAFT

ii. Summaries of any deviations from the IM Work Plan during the reporting period;

iii. Summaries of any problems or potential problems encountered during the reporting period;

iv. Projected work for the next reporting period; and,

v. Copies of laboratory or monitoring data.

b. The Permittee shall prepare and submit the IM Report to the Department within 90 calendar days of completion of IM conducted under Permit Condition IV.F. The IM Report shall, at a minimum, contain the following information:

i. A description of IM implemented;

ii. Summaries of results;

iii. Summaries of all problems encountered;

iv. Summaries of accomplishments and/or effectiveness of IM; and,

v. Copies of all relevant laboratory or monitoring data, *etc.*, in accordance with Permit Condition I.C.10.

DRAFT

IV.G. SUBMITTALS

1. All work plans, reports, schedules, and other documents ("submittals") required by this permit shall be subject to approval by the Department to assure that such submittals and schedules are consistent with the requirements of this Permit and with applicable regulations and guidance. The Permittee shall revise all submittals and schedules as directed by the Department.

2. The Department will review all submittals in accordance with the conditions of this permit. The Department will notify the Permittee in writing of any submittal that is disapproved, and the basis thereof. If the Department disapproves a submittal, the Department shall: (1) notify the Permittee in writing of the submittal's deficiencies and specify a due date for submission of a revised submittal, (2) revise the submittal and notify the Permittee of the revisions, or (3) conditionally approve the submittal and notify the Permittee of the conditions. Permit Condition IV.H. shall apply only to submittals that have been disapproved and revised by the Department, or that have been disapproved by the Department, then revised and resubmitted by the Permittee, and again disapproved by the Department.

3. All submittals shall be submitted within the time frame specified by the Department and in accordance with the approved schedule of compliance. Extensions of the due date for submittals may be granted by the Department based on the Permittee's demonstration that sufficient justification for the extension exists.

4. All submittals required by this permit shall be signed and certified in accordance with ADEM Admin. Code r. 335-14-8-.02(2).

5. Two (2) copies of all submittals shall be provided by the Permittee to the Department in accordance with Permit Condition I.K.

IV.H. DISPUTE RESOLUTION

Notwithstanding any other provision in this permit, in the event the Permittee disagrees, in whole or in part, with the Department's revision of a submittal or disapproval of any revised submittal required by this Part, the following may, at the Permittee's discretion, apply:

1. In the event that the Permittee chooses to invoke the provisions of this section, the Permittee shall notify the Department in writing within 30 calendar days of receipt of the Department's revision of a submittal or disapproval of a revised submittal. Such notice shall set forth:

   a. The specific matters in dispute;

   b. The position the Permittee asserts should be adopted as consistent with the requirements of this permit;

   c. The basis for the Permittee's position; and,

   d. Any matters considered necessary for the Department's determination.

2. The Department and the Permittee shall have an additional 30 calendar days from the Department's receipt of the notification provided for in Permit Condition IV.H.1. to meet or confer to resolve any disagreement.

3. In the event agreement is reached, the Permittee shall submit and implement the revised submittal in accordance with and within the time frame specified in such agreement.

4. If agreement is not reached within the 30-day period, the Department will notify the Permittee in writing of the decision on the dispute, and the Permittee shall comply with the terms and conditions of the Department's decision in the dispute. For the purposes of this provision in this permit, the responsibility for making this decision shall not be delegated below the Department’s Land Division Chief.

5. With the exception of those conditions under dispute, the Permittee shall proceed to take any action required by those portions of the submission and of this permit that the Department determines are not affected by the dispute.

DRAFT

Table IV.1

The following Solid Waste Management Unit(s) (SWMU) and/or Area(s) of Concern (AOC) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs requiring a RCRA Facility Investigation (RFI) and/or remediation:

SWMU/AOC NUMBER *	DESCRIPTION	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA

* There are no required RFI activities at this time

DRAFT

Table IV.2

The following Solid Waste Management Unit(s) (SWMU) and/or Area(s) of Concern (AOC) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs requiring no further action at this time:

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA
2A	Pilot Study Groundwater Treatment System - Blue Holding Tank/K001	Removed from site	Groundwater
2B	Pilot Study Groundwater Treatment System - Oil/Water Coalescing Separator/K001	Removed from site	Groundwater
2C	Pilot Study Groundwater Treatment System - Receiving Drum/K001	Removed from site	Groundwater
2D	Pilot Study Groundwater Treatment System - TM-100 Separator/K001	Removed from site	Groundwater
2E	Pilot Study Groundwater Treatment System - TM-100 Carbon Adsorption Unit/K001	Removed from site	Groundwater
2F	Pilot Study Groundwater Treatment System - Red Holding Tan/K001	Removed from site	Groundwater
3A	Storage Tank	Out of service above ground tank	Soil, groundwater
3B	Storage Tank	Out of service above ground tank	Soil, groundwater
3C	Storage Tank	Out of service above ground tank	Soil, groundwater
4	Current NPDES Drainage Ditch	Drainage Ditch /No longer in service	Soil, groundwater, surface water
5	Cylinder Door Sumps	Concrete Sumps / Removed and placed in SWMU 1	Soil, groundwater
6	Cylinder Sump	Concrete Sump/ Removed and placed in SWMU 1	Soil, groundwater
7	Cylinder Drip Tracks	Tracks removed and soil placed in SWMU 1	Soil, groundwater
8A	Creosote Recovery System	Oil Recovery Sumps/ Removed and placed in SWMU 1	Soil, groundwater
8B	Creosote Recovery System	Oil Recovery Sumps/ Removed and placed in SWMU 1	Soil, groundwater
8C	Creosote Recovery System	Oil Recovery Sumps/ Removed and placed in SWMU 1	Soil, groundwater
9A	Penta Recovery System	Oil Recovery Sump/ Removed and placed in SWMU 1	Soil, groundwater
9B	Penta Recovery System	Oil Recovery Sump/ Removed and placed in SWMU 1	Soil, groundwater
9C	Penta Recovery System	Oil Recovery Sump/ Removed and placed in SWMU 1	Soil, groundwater
9D	Penta Recovery System	Oil Recovery Sump/ Removed and placed in SWMU 1	Soil, groundwater
9E	Penta Recovery System	Oil Recovery Sump/ Removed and placed in SWMU 1	Soil, groundwater

DRAFT

List of SWMUs and AOCs requiring no further action at this time (cont.):

SWMU/AOC NUMBER	SWMU/AOC NAME	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA
10A	Collection Tanks	Above Ground Tanks/ Removed and placed in SWMU 1	Soil, groundwater
10B	Collection Tanks	Above Ground Tanks/ Removed and placed in SWMU 1	Soil, groundwater
11	Barometric Condenser	Removed and placed in SWMU 1	Soil, groundwater
13	Flocculation Tank	Above Ground Tank	Soil, groundwater
15	Aeration Tank	Above Ground Tank	Soil, groundwater
17	Former NPDES Drainage Ditch	Soil excavated and placed in landfill	Soil, groundwater
18	Creosote Wastewater Disposal Area	Marsh	Soil, groundwater
19	Treated Lumber Waste Pile	Waste placed in SWMU 1; Soil excavated and treated in on-site Corrective Action Management Unit (CAMU)	Soil, groundwater
20	Satellite Accumulation Areas	Waste sent off-site; Soil excavated and treated in CAMU	Soil, groundwater
22	North Tar Deposit	Waste Pile/ Removed and placed in SWMU 1	Soil, groundwater
23	Creek Tar Deposit	Waste Pile/ Removed and placed in SWMU 1	Soil, groundwater
24A	Spot Deposit	Waste Pile/ Removed and placed in SWMU 1	Soil, groundwater
24B	Spot Deposit	Waste Pile/ Removed and placed in SWMU 1	Soil, groundwater
24C	Spot Deposit	Waste Pile/ Removed and placed in SWMU 1	Soil, groundwater
25	Former Conical Burner	Incinerator/ Removed prior to RCRA unit closure	Ambient air
26	BFI Dumpster	Dumpster	Soil, groundwater
27	New Area Behind Tank Farm	Pond/ Soil excavated and treated in CAMU	Soil, groundwater
28	Scrap Debris Holding Area	Scrap waste/ In service	Soil, groundwater
29	Current Groundwater Treatment System	In service	None
AOC A	Former Treated Wood Storage	Drippage from treated wood/ Soil excavated and treated in CAMU	Soil, groundwater
AOC B	DG-1A Monitoring Well Plume	Low level of contaminants observed in monitoring well/ Ongoing monitoring	Groundwater
AOC C	Former Oil Pipeline Site	Soil excavated and treated in CAMU	Soil, groundwater
AOC D	Three Mile Creek	Stormwater runoff and NPDES discharge	Soil, groundwater, surface water
AOC E	Former UST Location	Within SWMU 1 capped area	Soil, groundwater
AOC F	Former Working Tank No. 2	Removed and placed in SWMU 1	Soil, groundwater
AOC G	Eastern Drainage Ditch	Stormwater runoff/ Soil excavated and treated in CAMU	Soil, groundwater
AOC H	Culvert	Culvert/ Soil excavated and treated in CAMU	Soil, groundwater

DRAFT

Table IV.3

The following Solid Waste Management Unit(s) (SWMU) and/or Area(s) of Concern (AOC) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs regulated by Parts I, II, and III of this permit.

SWMU/AOC NUMBER	DESCRIPTION	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA
1	Capped Landfill Unit	Capped Landfill Unit, approximately 160,000 ft2	Soil, groundwater
12	Vacuum Ponds*	Cooling Ponds	Soil, groundwater
14	Sand Filtration Beds (2)*	Drying Beds	Soil, groundwater
16	Aeration Pond*	Wastewater Treatment Pond	Soil, groundwater
21	Container Storage Area*	Drum Storage	Soil, groundwater

*closed as one landfill unit (SWMU 1)

DRAFT

PART V

CORRECTIVE MEASURES IMPLEMENTATION

V.A. APPLICABILITY

The conditions of this Part apply to SWMUs and AOCs identified in Table V.1.

V.B. GENERAL CONDITIONS

1. The Permittee is required to perform corrective measures for the SWMUs and AOCs identified in Condition V.A. The approved remedy for these defined units, waterway areas, or land parcels, includes any and all actions set forth in this permit and in the approved Interim Measures Plans and Corrective Measures Implementation (CMI) Plans approved by the Department, as noted below:

Applicable SWMU/AOC	CMS/CMI	Approval Date
SWMUs 1, 12, 14, 16, and 21	Corrective Action Plan Addendum	XX XX, 2025

2. Remedial Cleanup Levels

   Upon approval, pursuant to Condition Section 16.2 of the permit application designating applicable cleanup level(s), the cleanup level(s) for the areas specific to the CMI Plan will be deemed to be a condition of this permit.

3. Groundwater Monitoring and Remediation

   Where required pursuant to Conditions V.B.1. and V.C. of this permit, the Permittee shall comply with the general groundwater monitoring requirements of Part III of this permit.

4. Land Use Controls

   Where required pursuant to Conditions V.B.1. and V.C. of this permit, the Permittee shall establish appropriate land use controls to achieve protection of human health and the environment. The Permittee shall comply with Conditions V.B.5. and V.B.6. of this permit when implementing corrective measures requiring land use controls. In the event an off-site property owner does not allow an environmental covenant to be imposed, the Permittee shall notify the Department within 14 calendar days of receipt of such written notification of the refusal by the off-site property owner. If the property owner does not provide a written refusal of the request to allow an environmental covenant to be imposed, the Permittee shall notify the Department within 14 days of delivery of the request to the off-site property owner. In such cases, the Department may allow the Permittee to propose an alternate area-specific land use control subject to the Department's review and approval.

DRAFT

5. Survey Plat

For corrective measures where residual concentrations of contaminants will remain in-place at levels greater than those appropriate for unrestricted land use, or for corrective measures that rely on land use controls, the Permittee must:

a. Within 90 calendar days following the effective date of a permit modification addressing remedy selection, submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department, a survey plat indicating the location and dimensions of the SWMUs, AOCs, and capped or partially remediated areas with respect to permanently surveyed benchmarks, the locations of sampling points, and the concentrations of hazardous constituents detected. This plat must be prepared and certified by a professional land surveyor registered in the State of Alabama. The plat must be filed with the local zoning authority or the authority with jurisdiction over local land use and must contain a note, prominently displayed, which states the Permittee's obligation to limit the property to the specified restricted uses.

b. Maintain the survey plat as described in Condition V.B.5.a. of this permit and in the Attachment I of the permit application until the Permittee has demonstrated, to the satisfaction of the Department, that the levels of hazardous constituents in all contaminated media are within limits appropriate for unrestricted land uses.

6. Environmental Covenant

No later than the submission of the survey plat required in Condition V.B.5., the Permittee must:

a. Record in the probate judge’s office of the county in which the property, or a portion thereof, is located an environmental covenant in accordance with ADEM Admin. Code Division 335-5 that will in perpetuity notify any potential purchaser of the property that:

i. The land is contaminated with hazardous constituents in concentrations that exceed unrestricted use standards;

ii. The use of the property is restricted by this permit for certain residential, municipal, or industrial purposes and may lead to an increased risk of exposure to hazardous constituents depending upon the activities initiated at the site. Such activities may yield an increased level of human health risk to the owner;

iii. The potential purchaser or entity that desires to work in the contaminated area should notify the Permittee before mobilizing to the area covered by the land use control.

b. Submit to the Department a certification, signed by the Permittee in accordance with Permit Condition I.C.11., that the environmental covenant specified in this part has been performed. This certification must include a copy of the document in which the notation has been placed.

DRAFT

c. Maintain the environmental covenant described in Permit Condition V.B.6. until the Permittee has demonstrated, to the satisfaction of the Department, that the levels of hazardous constituents in all contaminated media are within limits appropriate for unrestricted land uses.

7. Security

Security measures, where required by Conditions V.B.1. and V.C. of this permit, will be conducted in accordance with ADEM Admin. Code r. 335-14-5-.02(5) and as prescribed in the approved CMI Plan.

8. Inspection

Where corrective measures addressed in Conditions V.B.1. include provisions to cap in place or partially remediate properties or land areas, whether owned or not owned by the Permittee, the Permittee shall specify inspection protocols on a scheduled basis to ensure continued integrity of the remedy and to ensure that land use remains appropriately restricted per the environmental covenant established pursuant to Permit Condition V.B.6. Inspection provisions shall be as prescribed in the approved CMI Plan

V.C. AREA SPECIFIC CONDITIONS (RESERVED)

V.D. CORRECTIVE MEASURES IMPLEMENTATION (CMI) REPORTS

1. CMI Progress Reports

If the time required to complete implementation of a specific set of corrective measures, as described in the Department-approved CMI Plan, is greater than 180 calendar days, the Permittee shall provide ADEM with progress reports according to the schedule in the ADEM-approved CMI Plan. If no schedule has been approved as part of the associated plan, progress reports shall be submitted at least quarterly. The progress reports shall, at a minimum, contain the following information:

a. A description of the portion of CMI Plan completed;

b. Summaries of and deviations from the approved CMI Plan during the reporting period;

c. Summaries of current and potential problems, including recommended solutions and alternatives as well as corrective actions undertaken;

d. Any monitoring data (soil, air, dust, water) collected for any reason during the construction period for the purposes of monitoring potential for human and ecological exposure; and,

d. Projected work for the next period and impacts to the approved schedule.

DRAFT

2. Final CMI Reports

Upon completion of construction of corrective measures systems, implementation of land use controls, interim removal actions, or other short-term activities required by this permit and/or the approved CMI Plan, the Permittee shall submit to the Department a Final CMI Report containing, at a minimum, the following:

a. A description of activities completed;

b. For cap and cover remedies, as-built construction drawings presenting the final in-place three-dimensional location of contaminated material. A plan view of the remediated areas shall be presented in addition to a cross section of the in-place capped areas;

c. Waste manifests indicating the handling of any excavated material that has been shipped off-site to a Department-approved, certified landfill;

d. For remedies involving land use controls, a copy of the survey plat and environmental covenant required by Condition V.B. of this permit;

e. Monitoring data (soil, air, dust, water) collected for any reason during the construction period for the purposes of monitoring potential for human and ecological exposure; and,

f. Certification, prepared in accordance with ADEM Admin. Code r. 335-14-8-02 (2)(d) by the Permittee and an Alabama-registered independent professional engineer, that the corrective measures implementation phase (*i.e.,* construction) required by this permit is complete and that the approved system and/or facilities are ready for operation in accordance with the intended design (*i.e.,* CMI Plan).

3. Corrective Measures (CM) Effectiveness Reports

a. For corrective measures that have been fully implemented and where the corrective measures system(s) must operate for a period of time to achieve cleanup goals or levels, the Permittee shall submit CM Effectiveness Reports (addressing all Corrective Measures systems at the facility which are subject to this permit condition) annually, unless otherwise approved by the Department, beginning 180 calendar days following the Department's approval of the Final CMI Report for the initial Corrective Measures system subject to this permit condition. The overall CM Effectiveness Reports shall include, at a minimum, the following information for each SWMU and/or AOC included in the report:

i. A detailed narrative presenting an evaluation of the effectiveness of the selected remedy;

ii. Summaries of compliance with and progress toward achieving cleanup goals;

iii. Any significant revisions, adjustments, or proposed modifications to the selected remedy;

DRAFT

iv. Tabulated environmental sampling and monitoring data including, but not limited to, groundwater quality, elevation data, and a graphical representation of all constituents detected during each sampling event from recovery wells, monitoring wells, drinking water wells, and other locations;

v. Chain of custody, field reports, and laboratory data sheets to include the date of collection, the date the sample was extracted, and the date of sample analysis for samples collected during the reporting period;

vi. Any monitoring data (soil, air, dust, water) collected for any reason during the post-construction period for the purposes of monitoring potential for human and ecological exposure;

vii. Isoconcentration maps depicting the distribution of parameters for each sampling event;

viii. Time versus concentration plots for each monitoring parameter for each recovery well and a representative number of effectiveness wells;

ix. Tabulated volumetric data on groundwater pumped and pumping rates (monthly and cumulative) for each recovery well;

x. Records of any groundwater recovery system operation time, including shutdown periods, not including any minor (less than 24 hours) shutdowns for repairs, maintenance, etc.;

xi. Potentiometric surface maps;

xii. Description of land use during the reporting period at the designated area requiring corrective measures; and,

xiii. Findings of the Permittee's investigation into the continued effectiveness of land use controls per Condition V.B.

b. If, at any time, the Permittee determines that any remedy selection specified in Condition V.B or V.C. of this permit no longer satisfies the applicable requirements of ADEM Admin. Code r. 335-14-5-.06(12) or this permit for releases of hazardous waste or hazardous constituents originating from SWMUs or AOCs, the Permittee must, within 90 calendar days, submit an application for a permit modification, pursuant to Permit Condition I.J, to make any appropriate changes to the CMI Plan.

c. The application for changes in the CMI Plan, including changes in inspection and monitoring provisions of the CMI Plan, shall be submitted as an application for a permit modification pursuant to the requirements of ADEM Admin. Code r. 335-14-8-.04.

DRAFT

4. Final Report of Corrective Measures

Within 90 calendar days following attainment of cleanup levels or goals as outlined in this Permit and the approved CMI Plan, the Permittee shall submit to the Department a Final Report of Corrective Measures (FRCM). The FRCM shall contain a certification by the Permittee and an Alabama-registered independent professional engineer that all remedial measures required by this permit and the approved CMI Plan have been completed. The FRCM shall outline any procedures and schedules for dismantling of corrective measures systems, groundwater monitoring or recovery systems, removal of land use controls, and any other remedial systems or controls required by this permit or the approved CMI Plan.

DRAFT

Table V.1.

The following Solid Waste Management Unit(s) (SWMUs) and/or Area(s) of Concern (AOCs) numbers and descriptions correspond with those noted in the RCRA Facility Assessment (RFA) Report. Where discrepancies exist, the permit will take precedence.

List of SWMUs and AOCs requiring Corrective Measures.

SWMU/AOC NUMBER	DESCRIPTION	UNIT COMMENT	POTENTIALLY AFFECTED MEDIA
1	Capped Landfill Unit	Capped Landfill Unit, approximately 160,000 ft2	Soil, groundwater
12	Vacuum Ponds*	Cooling Ponds	Soil, groundwater
14	Sand Filtration Beds(2)*	Drying Beds	Soil, groundwater
16	Aeration Pond*	Wastewater Treatment Pond	Soil, groundwater
21	Container Storage Area*	Drum Storage	Soil, groundwater

*closed as one landfill unit (SWMU 1)

DRAFT

PART VI

SUMMARY OF DEADLINES

The summary information provided herein is intended only as a guide to the requirements of this permit. It is not intended to be all inclusive, nor is it intended to be used as a substitute for the full text of this permit.

PERMIT CONDITION	ITEM	DUE DATE
I.C.2.	Reapply for a renewal	180 calendar days before the expiration of the current permit.
I.C.12.a	Give notice to the Department of any planned physical alterations or additions to the permitted facility and any solid waste management units.	As soon as possible
I.C.12.f	Report any noncompliance with this permit that may endanger human health or the environment.	Orally within 24 hours from the time the Permittee becomes aware of the circumstances. Written submission shall also be provided within 5 calendar days of the time that the Permittee becomes aware of the circumstances
I.C.13	Submit the certification of construction.	Before the Permittee may commence treatment, storage or disposal of hazardous waste or contaminated media at any new or modified portion of the facility
I.G.	Waste Minimization Certification	Annually
I.H.	Update cost estimates	Annually, as required by ADEM Admin. Code Rules 335-14-5-.08(3)(b), 335-14-5-.08(5)(b), and 335-14-5-.08(10)(b) and no later than 30 calendar days after the Department has approved a modification to the Closure Plan, Post-Closure Plan, or Corrective Action Plan, or any other plan required or referenced by this permit, if the change in the plan results in an increase in the amount of the cost estimate.
I.J.	Submit a written request for a permit modification pursuant to the requirements of ADEM Admin. Code r. 335-14-8-.04(2).	At least 60 calendar days prior to a proposed change in facility design or operation.
II.C.2	Inspect closed unit(s).	At least monthly, after storms, and in accordance with the inspection schedule.
III.B.1.a.iii.	Notification of damaged groundwater monitoring wells.	Immediately in writing, which includes a description of the well repair activities to be conducted. The well repair procedures must be approved by the Department prior to implementation. A repair report must be submitted within 30 calendar days of repair.

DRAFT

PERMIT CONDITION	ITEM	DUE DATE
III.B.1.d.	Install additional groundwater monitoring wells	As necessary to assess changes in the rate and extent of any plume of contamination, or as otherwise deemed necessary. Note: a permit modification request must be submitted within 90 calendar days prior to installation of additional groundwater monitoring well(s).
III.B.1.e.	Install and/or designate wells AS-3 and AS-4 as recovery wells	Within 90 calendar days after the effective date of this permit. Submit report within 120 calendar days after the effective date of this permit. Submit well installation report within 30 calendar days after installation is completed.
III.B.1.f.	Abandon wells AS-1, AS-2, AS-5, AS-6, AS-7, AS-8, AS-9, AS-10, RW-20, RW-21, RW-23, RW-24, RW-25, RW-28, RW-29, RW-30, RW-31, RW-32, RW-33, and RW-34	Within 90 calendar days after the effective date of this permit. Submit report within 120 calendar days after the effective date of this permit.
III.B.2.a.	Determine groundwater surface elevation.	At least annually and each time a well is sampled.
III.B.2.b.	Determine groundwater flow rate and direction.	At least annually.
III.B.6.b.	Submit groundwater monitoring report	Within 60 calendar days of the first sampling event and annually thereafter.
III.B.6.c.	Submit progress reports.	Within 90 calendar days after the effective date of this permit and annually thereafter.
III.E.2.b.	Implement corrective action plan	No later than 120 calendar days after the effective date of this permit.
III.E.3.a.	Sample all point of compliance, effectiveness, and boundary wells and analyze for the constituents listed in Table III.2. of this permit.	Semi-annually beginning within 120 calendar days of the effective date of this permit.
III.E.3.b.	Sample all background, point of compliance wells, effectiveness, and boundary wells and analyze for the constituents listed in Table III.2. of this permit.	Annually beginning within 120 calendar days of the effective date of this permit.
III.E.3.c.	Sample all background, point of compliance, effectiveness, and boundary monitoring wells and analyze for temperature (degrees F or C), specific conductance (Mhos/cm), and pH (standard units).	Each time the well is sampled.
III.E.4.a.	Submit corrective action effectiveness reports.	Annually within 60 calendar days of each annual anniversary of this permit after corrective action is initiated and until corrective action is completed.

DRAFT

PERMIT CONDITION	ITEM	DUE DATE
IV.B.1.	Notify the Department, in writing, of the discovery of any additional AOCs	Within 15 calendar days of discovery
IV.B.2.	Notify the Department, in writing, of the discovery of any additional SWMUs	Within 15 calendar days of discovery
IV.B.3.	Submit a SWMU Assessment Report (SAR) for each SWMU identified under IV.B.2.	Within 90 calendar days of notification.
IV.C.1.	Notify the Department, in writing, of any newly discovered release(s) of hazardous waste or hazardous constituents from SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means.	Within 15 calendar days of discovery
IV.D.7.	Submit RFI Progress Reports.	Monthly beginning in the second month following the initiation of the RFI
IV.D.8.	Submit RFI Report	Within 60 calendar days from the completion of investigation activities.
IV.E.2.	Submit CMI Plan	Within 120 calendar days following the Permittee's submittal of the RFI Report indicating that hazardous constituents have come to be located at any area of the Permittee's facility, or beyond the facility, at concentrations exceeding those appropriate for the protection of human health and the environment, or within 120 calendar days following notification from the Department that a CMI Plan is required, whichever occurs earlier.
IV.E.4.	Demonstrate financial assurance for completing the approved remedy.	Within 60 calendar days after this Permit has been approved.
IV.F.1.	Submit IM Work Plan	Within 30 calendar days upon notification by the Department.
IV.F.3.	Submit IM Report	Within 90 calendar days of completion of IM.
V.B.5.a.	Submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department, a survey plat indicating the location and dimensions of the SWMUs, AOCs, and capped or partially remediated areas with respect to permanently surveyed benchmarks, the locations of sampling points, and the concentrations of hazardous constituents detected	Within 90 calendar days following the effective date of a permit modification addressing remedy selection.

DRAFT

PERMIT CONDITION	ITEM	DUE DATE
V.B.6.a.	Record environmental covenant	No later than the submission of the survey plat required in Condition V.B.5.
V.B.6.b.	Submit to the Department a certification that the environmental covenant has been performed.	No later than the submission of the plat required in Condition V.B.5.
V.D.3.	Submit Corrective Measures Effectiveness Reports	Annually beginning 180 calendar days following the Department's approval of the Final CMI Report
V.D.4.	Submit a Final Report of Corrective Measures	Within 90 calendar days following attainment of cleanup levels or goals

DRAFT

RCRA SUBTITLE C IDENTIFICATION FORM

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (Select only one.)

☐	Obtaining or updating an EPA ID number for on-going regulated activities (Items 10-17 below) that will continue for a period of time.
☐	Submitting as a component of the Hazardous Waste Report for _____ (Reporting Year)
	☐ Site was a TSD facility, a reverse distributor, and/or generator of ≥ 1,000 kg of non-acute hazardous waste, > 1 kg of acute hazardous waste, or > 100 kg of acute hazardous waste spill cleanup in **one or more months of the reporting year** (or State equivalent LQG regulations)
☐	Notifying that regulated activity is no longer occurring at this Site
☐	Obtaining or updating an EPA ID number for conducting Electronic Manifest Broker activities
☑	Submitting a new or revised Part A (permit) Form

2. Site EPA ID Number

A	L	D	0	5	7	2	2	6	9	0	4

3. Site Name

Cavenham Forest Industries LLC

4. Site Location Address

Street Address	**South End of Herbert Street**				
City, Town, or Village	**Mobile**			County	**Mobile**
State	**Alabama**	Country	**USA**	Zip Code	**36652**
Latitude	**30°43'50.92"N**	Longitude	**88° 2'56.97"W**	☑ Use Lat/Long as Primary Address	

5. Site Mailing Address ☐ Same as Location Street Address

Street Address	**P.O. Box 15369**				
City, Town, or Village	**Hattiesburg**				
State	**MS**	Country	**USA**	Zip Code	**39404**

6. Site Land Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

7. North American Industry Classification System (NAICS) Code(s) for the Site (at least 5-digit codes)

A. (Primary) **321114**	C.
B.	D.

8. Site Contact Information

☐ Same as Location Address

First Name **Collin**	MI **R**	Last Name **Creel**
Title **Project Manager - EMS**		
Street Address **7350 Highway 98**		
City, Town, or Village **Hattiesburg**		
State **MS**	Country **USA**	Zip Code **39402**
Email **ccreel@env-mgt.com**		
Phone **601-544-3674**	Ext	Fax **601-544-0504**

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner

☐ Same as Location Address

Full Name **Cavenham Forest Industries LLC**	Date Became Owner (mm/dd/yyyy) **5/1/1987**

Owner Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street Address **600 River Avenue, Suite 200**		
City, Town, or Village **Pittsburgh**		
State **PA**	Country **USA**	Zip Code **15212**
Email **mike.slenska@trmi.biz**		
Phone **412-208-8867**	Ext	Fax **412-491-7645**
Comments		

B. Name of Site's Legal Operator

☐ Same as Location Address

Full Name **Cavenham Forest Industries LLC**	Date Became Operator (mm/dd/yyyy) **5/1/1987**

Operator Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street Address **600 River Avenue, Suite 200**		
City, Town, or Village **Pittsburgh**		
State **PA**	Country **USA**	Zip Code **15212**
Email **mike.slenska@trmi.biz**		
Phone **412-208-8867**	Ext	Fax **412-491-7645**
Comments		

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities

☑ Y ☐ N	1. Generator of Hazardous Waste—If "Yes", mark only one of the following—a, b, c	
☑	a. LQG	-Generates, in any calendar month, 1,000 kg/mo (2,200 lb/mo) or more of non-acute hazardous waste (includes quantities imported by importer site); or - Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lb/mo) of acute hazardous waste; or - Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lb/mo) of acute hazardous spill cleanup material.
☐	b. SQG	100 to 1,000 kg/mo (220-2,200 lb/mo) of non-acute hazardous waste and no more than 1 kg (2.2 lb) of acute hazardous waste and no more than 100 kg (220 lb) of any acute hazardous spill cleanup material.
☐	c. VSQG	Less than or equal to 100 kg/mo (220 lb/mo) of non-acute hazardous waste.
☐ Y ☑ N	2. Short-Term Generator (generates from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section. *Note: If "Yes", you MUST indicate that you are a Generator of Hazardous Waste in Item 10.A.1 above.*	
☑ Y ☐ N	3. Treater, Storer or Disposer of Hazardous Waste—Note: Part B of a hazardous waste permit is required for these activities.	
☐ Y ☑ N	4. Receives Hazardous Waste from Off-site	
☐ Y ☑ N	5 Recycler of Hazardous Waste	
☐	a. Recycler who stores prior to recycling	
☐	b. Recycler who does not store prior to recycling	
☐ Y ☑ N	6. Exempt Boiler and/or Industrial Furnace—If "Yes", mark all that apply.	
☐	a. Small Quantity On-site Burner Exemption	
☐	b. Smelting, Melting, and Refining Furnace Exemption	

B. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g. D001, D003, F007, U112). Use an additional page if more spaces are needed.

K001						

C. Waste Codes for State Regulated (non-Federal) Hazardous Wastes. Please list the waste codes of the State hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

11. Additional Regulated Waste Activities (NOTE: Refer to your State regulations to determine if a separate permit is required.)

A. Other Waste Activities

☐ Y ☑ N	1. Transporter of Hazardous Waste—If "Yes", mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Underground Injection Control
☐ Y ☑ N	3. United States Importer of Hazardous Waste
☐ Y ☑ N	4. Recognized Trader—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter
☐ Y ☑ N	5. Importer/Exporter of Spent Lead-Acid Batteries (SLABs) under 40 CFR 266 Subpart G—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter

B. Universal Waste Activities

☐ Y ☑ N	1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) - If "Yes" mark all that apply. Note: Refer to your State regulations to determine what is regulated.
☐	a. Batteries
☐	b. Pesticides
☐	c. Mercury containing equipment
☐	d. Lamps
☐	e. Aerosol Cans
☐	f. Other (specify) _____
☐	g. Other (specify) _____
☐ Y ☑ N	2. Destination Facility for Universal Waste Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

☐ Y ☑ N	1. Used Oil Transporter—If "Yes", mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Used Oil Processor and/or Re-refiner—If "Yes", mark all that apply.
☐	a. Processor
☐	b. Re-refiner
☐ Y ☑ N	3. Off-Specification Used Oil Burner
☐ Y ☑ N	4. Used Oil Fuel Marketer—If "Yes", mark all that apply.
☐	a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
☐	b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Pharmaceutical Activities

☐ Y ☑ N	1. Operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals—if "Yes", mark only one. Note: See the item-by-item instructions for definitions of healthcare facility and reverse distributor.
☐	a. Healthcare Facility
☐	b. Reverse Distributor
☐ Y ☑ N	2. Withdrawing from operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals. Note: You may only withdraw if you are a healthcare facility that is a VSQG for all of your hazardous waste, including hazardous waste pharmaceuticals.

12. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262, Subpart K.

☐ Y ☑ N	A. Opting into or currently operating under 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories— If "Yes", mark all that apply. Note: See the item-by-item instructions for definitions of types of eligible academic entities.
☐	1. College or University
☐	2. Teaching Hospital that is owned by or has a formal written affiliation with a college or university
☐	3. Non-profit Institute that is owned by or has a formal written affiliation with a college or university
☐ Y ☑ N	B. Withdrawing from 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories.

13. Episodic Generation

☐ Y ☑ N	Are you an SQG or VSQG generating hazardous waste from a planned or unplanned episodic event, lasting no more than 60 days, that moves you to a higher generator category. If "Yes", you must fill out the Addendum for Episodic Generator.

14. LQG Consolidation of VSQG Hazardous Waste

☐ Y ☑ N	Are you an LQG notifying of consolidating VSQG Hazardous Waste Under the Control of the Same Person pursuant to 40 CFR 262.17(f)? If "Yes", you must fill out the Addendum for LQG Consolidation of VSQG hazardous waste.

15. Notification of LQG Site Closure for a Central Accumulation Area (CAA) (optional) OR Entire Facility (required)

☐ Y ☑ N	LQG Site Closure of a Central Accumulation Area (CAA) or Entire Facility.
	A. ☐ Central Accumulation Area (CAA) or ☐ Entire Facility
	B. Expected closure date: _____ mm/dd/yyyy
	C. Requesting new closure date: _____ mm/dd/yyyy
	D. Date closed : _____ mm/dd/yyyy ☐ 1. In compliance with the closure performance standards 40 CFR 262.17(a)(8) ☐ 2. Not in compliance with the closure performance standards 40 CFR 262.17(a)(8)

16. Notification of Hazardous Secondary Material (HSM) Activity

☐ Y ☑ N	Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 260.30, 40 CFR 261.4(a)(23), (24), (25), or (27)? If "Yes", you must fill out the Addendum to the Site Identification Form for Managing Hazardous Secondary Material.

17. Electronic Manifest Broker

☐ Y ☑ N	Are you notifying as a person, as defined in 40 CFR 260.10, electing to use the EPA electronic manifest system to obtain, complete, and transmit an electronic manifest under a contractual relationship with a hazardous waste generator?

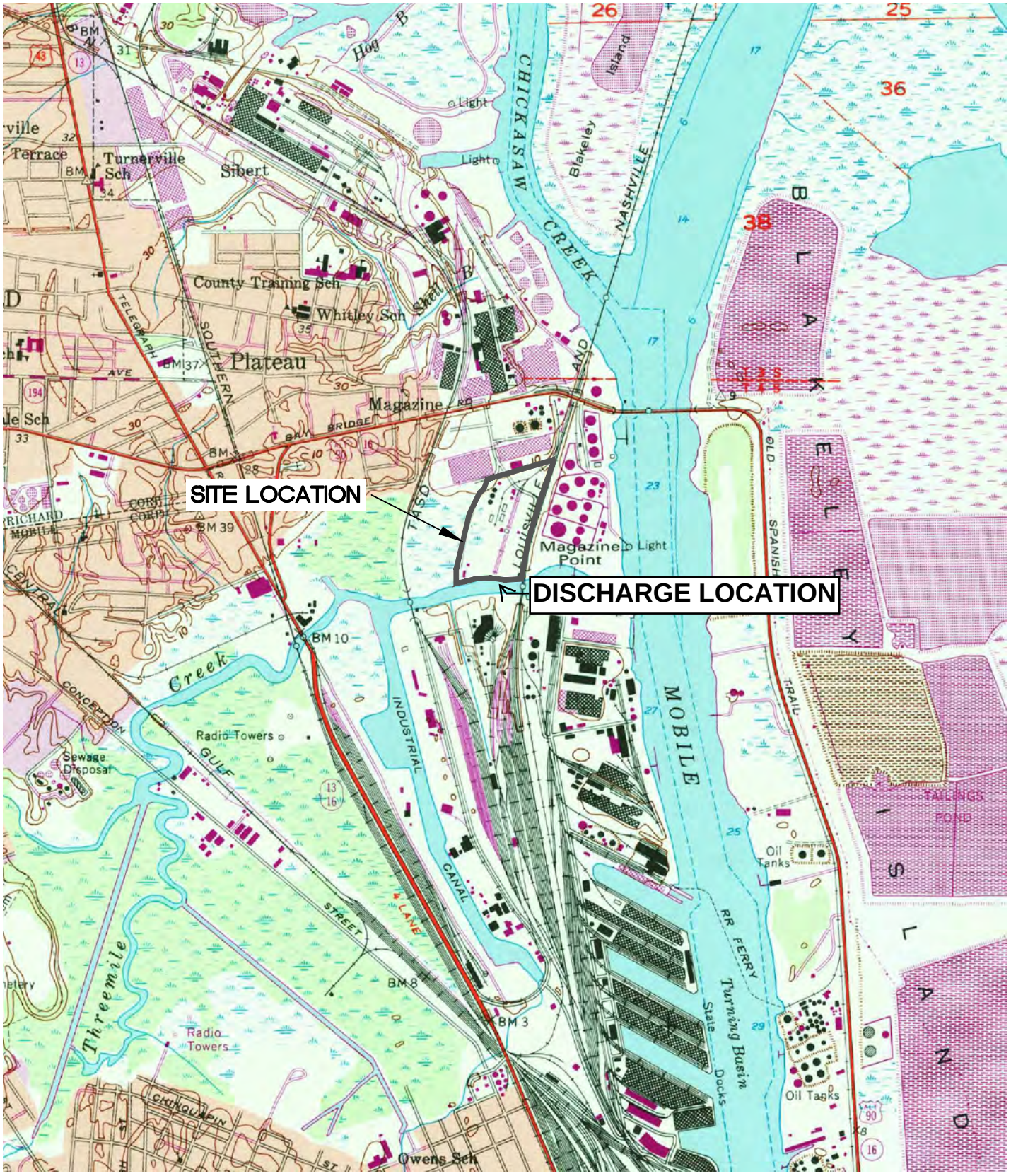
18. Comments (include item number for each comment)

The facility has closed RCRA units managing wood treating waste and undergoing corrective action. Hazardous waste is generated occasionally during maintenance activities with the water treatment system and investigations or site maintenance.

19. Certification I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. **Note: For the RCRA Hazardous Waste Part A permit Application, all owners and operators must sign (see 40 CFR 270.10(b) and 270.11)**.

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy) 9/27/2024
Printed Name (First, Middle Initial Last) **Michael Slenska**	Title **President, CFI LLC**
Email **mike.slenska@trmi.biz**	

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
Printed Name (First, Middle Initial Last)	Title
Email	



SCALE 1 INCH = 2000 FEET

500 1000 2000

0 500 1000 2000 4000

REFERENCE: U.S.G.S. TOPOGRAPHIC MAP
1982 – MOBILE, ALA
7.5 MINUTE SERIES
MOBILE, ALABAMA

SITE LOCATION

CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

DATE:	APPROVED:	DRAWN BY:
03/30/12	BY: _____	P.D.M.
SCALE:	DATE: _____	CAD NO.
AS SHOWN		CFI-HANSON

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE A-1

RAILROAD

PROPERTY LINE

N W E S

DISCHARGE LOCATION

THREE MILE CREEK

DIRT ROAD

SUMP

FENCELINE

GAS

UG-1

B-111

B-102

DG-1A

B-103

RW-9

RW-8A

RW-8

B-27

B-101

B-26

B-108A

B-116

B-128

RW-10

RW-37

RW-36

RW-35

RW-11

B-36

RW-12

B-25

I-1

RC-1A

RC-1

RW-6

E-2

CO-3

CO-4

CO-5

A-6

RW-21

RW-34

RW-5

RW/AS-22

RW/AS-20

CO-2

RW-18

RW-23

RW-20

A-5

RW-33

RW-24

GC SUMP

RC-2

RC-2A

WATER TREATMENT AREA

CULVERT

B-29

RW-13

B-104

6' CHAIN LINK FENCE

HDPE-LINED SLURRY WALL

GRADIENT CONTROL SYSTEM

HAZARDOUS WASTE MANAGEMENT AREA

RW-4

AS-5

AS-10

RW-25

AS-7

CO-11

AS-6

B-24

B-37

ENTRANCE GATE

B-110

B-94

OFFICE

AS-4

RW-28

CO-1

CO-10

AS-3

A-4

CO-6

RC-3A

RC-3

B-61

B-65

B-97

RW-31

RW-31

RW-32

RW-32

RW-29

RW-29

UG-2

B-139

RW-30

RW-30

RW-7

RW-7

E-1

AS-1

A-1

AS-2

A-2

RW-3A

RW-3B

A-3

RW-1

RW-2

CO-9A

CO-8

CO-7

I-2A

I-3

B-64A

B-60A

B-140

B-48A

B-59A

SUMMIT AREA

B-114

KIMBERLY-CLARK

KIMBERLY-CLARK

LEGEND

- UPPER AQUIFER MONITOR WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- AIR SPARGING WELLS
- UPPER AQUIFER RECOVERY WELL
- UPPER AQUIFER INJECTION WELL
- LOWER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- UTILITY POLE

0 120 240 Feet

GRAPHIC SCALE

SITE PLAN

CAVENHAM FOREST INDUSTRIES LLC. - MOBILE, AL

DATE:	APPROVED:	DRAWN BY:
8/05/2023	BY:	KRK
SCALE:	DATE:	CAD NO.
AS SHOWN		SITE USE

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE A-2

H:\CP1_Homes\Models\Drawings\Current Dwgs\Site.wor 2023/07/1 [pf=2]

SCALE 1 INCH = 500 FEET

125 250 500

0 125 250 500 1000

REFERENCE: GOOGLE EARTH IMAGERY
2012 AERIAL PHOTOGRAPH
MOBILE, ALABAMA

SITE LAYOUT MAP

CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

DATE: 03/30/12	APPROVED: BY: _____ DATE: _____	DRAWN BY: P.D.M.
SCALE: AS SHOWN		CAD NO. CFI-HANSON

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE A-3

RESOURCE CONSERVATION AND RECOVERY ACT

POST-CLOSURE

PERMIT APPLICATION

PART B

EPA ID# ALD 057 226 904

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

Volume I of III

September 27, 2024

TABLE OF CONTENTS
VOLUME I
RCRA Post Closure Part B Permit Application

1.0 GENERAL FACILITY DESCRIPTION 1
1.1 A General Description of the Facility. 1
1.1.1 Plant History 1
1.1.2 Facility Location 2
1.1.3 Closed Hazardous Waste Units 2
1.1.4 Aeration Pond 3
1.1.5 Vacuum Ponds 3
1.1.6 Sand Filtration (Drying) Beds 4
1.1.7 Container Storage 4
2.0 CHEMICAL AND PHYSICAL ANALYSIS OF HAZARDOUS WASTE 5
2.1 Description of Hazardous Waste Generated 5
2.2 Analyses of Waste 5
2.3 Post-Closure Waste Generation 6
3.0 SECURITY PROCEDURES AND EQUIPMENT 6
4.0 POST-CLOSURE INSPECTION SCHEDULE 7
5.0 PREPAREDNESS AND PREVENTION 8
6.0 FACILITY LOCATION INFORMATION 9
7.0 PERSONNEL TRAINING PROGRAM DOCUMENTATION 12
8.0 CLOSURE AND POST-CLOSURE PLAN AND DOCUMENTATION 12
8.1 Corrective Action Management Units 13
9.0 DOCUMENTATION OF NOTICE TO DEED 14
10.0 CLOSURE COST ESTIMATE 14
11.0 POST-CLOSURE COST ESTIMATE AND FINANCIAL ASSURANCE 14
12.0 TOPOGRAPHIC MAP 15
13.0 OTHER INFORMATION 16
14.0 GROUNDWATER PROTECTION 16
14.1 Groundwater Monitoring Data Summary 17
14.2 Identification of the Uppermost Aquifer 17
14.3 “Point of Compliance” Well Locations 19
14.4 Description of Any Contamination Plume 19
14.4.1 Extent of Contaminant Plume 21
14.4.2 Characteristics of Contaminant Plume 22
15.0 GROUNDWATER MONITORING 22
15.1 Detection Monitoring Program 22
15.2 Compliance Monitoring Program 23
16.0 CORRECTIVE ACTION PROGRAM 24
16.1 Groundwater Characterization 24
16.2 Groundwater Concentration Limits 25
16.3 Groundwater Corrective Action 25
16.4 Groundwater Monitoring Program Effectiveness 25
16.5 Corrective Action Program Submittal Schedule 27
17.0 SOLID WASTE MANAGEMENT UNITS 27

LIST OF TABLES

Table	Description
1	Basis for Listing K001 Hazardous Waste
2	GC/MS Analysis of Mobile K001 Wastes

LIST OF FIGURES

Figure	Description
1	Site Location
2	Vicinity Map
3	Site Plan
4	Mobile Facility Prior to Closure
5	Pre-Closure Flow Diagram For Wastewater And Hazardous Waste Process
6	Mobile Closure "As-Built"
7	Mobile Closure Cross-section "As-Built"
8	"As-Built" Cutoff Wall Alignment and Profile
9	Gradient Control System Plan
10	Gradient Control System "As-Built"
11	Gas Collection/Venting System Plan
12	Clay/Synthetic Liner Plan
13	Topsoil Drainage Core Plan
14	Cover System Details
15	Security Fence Details
16	Wind Rose
17	Facility Contour Map
18	Soil Boring Location Map
19	Geologic Profiles
20	Upper Aquifer Isopach
21	Confining Clay Isopach
22	Upper Aquifer Potentiometric Map
23	Lower Aquifer Potentiometric Map
24	Upper Aquifer - Total Volatile
25	Upper Aquifer - Total Phenolics
26	Upper Aquifer - Total Base/Neutral
27	Lower Aquifer - Total Volatile
28	Lower Aquifer - Total Phenolics
29	Lower Aquifer - Total Base/Neutral
30	100 Year Flood Plain
31	Point of Compliance Well Locations
32	Solid Waste Management Unit Locations

LIST OF ATTACHMENTS
VOLUME II

Attachment	Description
A	Closure Certification Documentation
B	NPDES Permit
C	Waste Analysis Plan
D	Flood Protection
E	Contingency Plan
F	Inspection and Security Schedule
G	Personnel Training Program
H	Corrective Action Management Units
I	Documentation of Closure on Deed
J	Post-Closure Cost Estimates
K	Financial Assurance
L	Groundwater Analytical Summary (1-1-20 to 12-31-23)
M	Groundwater Monitoring Laboratory Reports (1-1-20 to 12-31-23)
N	Groundwater Appendix IX Laboratory Reports
O	Soil Boring Logs
P	Groundwater Monitoring Plan

VOLUME III

R	Corrective Action Plan Addendum
S	SWMU and AOC Descriptions

REFERENCES

Cavenham Forest Industries Inc., July, l986, *Mobile Facility Closure and Post-Closure Plan*.

Cavenham Forest Industries Inc., April, l989, Lower Aquifer Ground Water Quality Assessment-Mobile, Alabama Facility.

Cavenham Forest Industries Inc., September, l989, *Corrective Action Plan-Mobile, Alabama Facility*.

Environmental Management Services, Inc., May 6, 2004 *CAMU Certification Report.*

Foster Wheeler Environmental Services. April 1995, Soil Corrective Action Work Plan and Health Risk-Based Action Levels.

Foster Wheeler Environmental Corporation, January 1996, Confirmatory Sampling and RCRA Facility Investigations, Mobile, AL.

Freeze, R. A. and Cherry, J. A., l979, *Ground Water*, Prentice-Hall, Inc., Englewood Cliffs, N. J.

Geraghty & Miller, November, l985, Ground Water Quality Assessment-Mobile, Alabama Facility.

Soil Testing Engineers, Inc. October, l989, Report of Quality Assurance Monitoring of Wood Treatment Closure-Phase I, Mobile, Alabama.

Soil Testing Engineers, Inc., July l990, Report of Quality Assurance Monitoring of Wood Treatment Closure-Phase II, Mobile, Alabama.

Walton, W. C., l989, *Analytical Ground Water Modeling*: Lewis Publishers, Inc., Michigan.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Michael Slenska Date: 9/27/2024

Name: Michael Slenska
Title: President
Cavenham Forest Industries LLC

The Alabama Department of Environmental Management (ADEM) Administrative Code Part B permit application requirements are provided below. ADEM Administrative Code citations from 335-14-8-.02(5) and permit application section headings are presented in bold type. Cavenham Forest Industries LLC (CFI) responses are provided below each citation in standard type.

> **Part B of the permit application consists of the general information requirements of 335-14-8-.02(5), and the specific information requirements in 335-14-8-.02(5) through (19) applicable to the facility. The Part B information requirements presented in 335-14-8-.02(5) through (19) reflect the standards promulgated in 335-14-5. These information requirements are necessary in order for the Department to determine compliance with the 335-14-5 standards. If owners and operators of HWM facilities can demonstrate that the information prescribed in Part B cannot be provided to the extent required, the Department may make allowance for submission of such information on a case-by-case basis. Information required in Part B shall be submitted to the Department and signed in accordance with requirements in 335-14-8-.02(2). As discussed in 335-14-1-.01(1)(e), certain technical data, such as design drawings and specifications, engineering studies, geological interpretations, geological cross-sections, geological profiles, and survey plats involve the practice of engineering, land surveying, and/or geology and must be certified by a registered professional engineer, a professional land surveyor, and/or a licensed professional geologist, as applicable. For post-closure permits, only the information specified in Sec. 270.28 is required in Part B of the permit application.**

1.0 GENERAL FACILITY DESCRIPTION

335-14-8-.02(5)(b) General information requirements. The following information is required for all HWM facilities, except as 335-14-5-.01(1) provides otherwise:

1.1 A General Description of the Facility.

1.1.1 Plant History

Cavenham Forest Industries LLC (CFI) maintains a closed site in Mobile, Alabama that formerly produced treated wood products. The manufacturing process utilized creosote and pentachlorophenol under elevated temperature and pressure for preservative treatment of poles and piling. Plant operations commenced in 1938 and the plant operated until 1980, when the wood treating operation terminated and the manufacturing plant was dismantled. The previous owner, Crown Zellerbach Corporation, purchased the facility in 1972. CFI acquired the facility in May, 1986.

During the operating history, four (4) RCRA hazardous management waste units were utilized in the treatment process. These RCRA hazardous waste management units consisted of an Aeration Pond, two (2) Vacuum Ponds, Sand filtration Beds, and a Container Storage area. These units were closed between August 1987 and July 1990. An ADEM Certification of Closure was issued to the facility on April 8, 1991 and an initial Post-Closure Permit was issued to CFI by ADEM on February 5, 1991.

1.1.2 Facility Location

CFI's Mobile facility is positioned near north latitude 30º 43' 46" and west longitude 88º 03' 01" on the north side of the city of Mobile, Alabama. The facility's physical address is the south end of Herbert Street, which is just south of the Herbert Street intersection with Bay Bridge Road. Figure 1 is a map which indicates the location of the Mobile Facility. Figure 2 is a vicinity map showing the area around the facility. Figure 3 shows the existing topographic features of the site.

The site is situated in a principally flat, low-lying area, with site elevation ranging between 0 and 16 feet relative to the National Geodetic Vertical Datum (NGVD). The site is in an industrial area that is bounded on the north by the Star Paper Company warehouse area and on the west by Kimberly-Clark (formerly Scott Paper Company) solid waste landfill and warehouse. The east boundary of the site is an elevated railroad embankment. Immediately east of this embankment is the EOTT Energy petroleum bulk storage facility. The southern border of the property is formed by Three Mile Creek, an industrial waterway that flows into the Mobile River approximately l/4 mile from the plant's east boundary. South of Three Mile Creek on the opposite bank from the facility is a marine docks and railroad facility operated by the State of Alabama.

1.1.3 Closed Hazardous Waste Units

Prior to closure there were four (4) hazardous waste management units on the plant site. These units were:

- The Aeration Pond
- The Vacuum Ponds
- The Sand Filtration Beds, and
- The Container Storage area.

The locations of these units prior to closure are shown on Figure 4. A flow diagram for the wastewater process that existed when the facility was in operation is illustrated in Figure 5. A brief description of each unit is provided below.

1.1.4 Aeration Pond

The Aeration Pond was approximately 85 feet wide and 375 feet long with a K001 sludge layer approximately 1.5 feet thick. The pond was surrounded by an earthen dike that was approximately 7 feet high, being constructed of a clay core and a shell surface. The bottom of the pond was approximately at grade and was unlined. It is estimated that at the time of closure this facility contained approximately 1,770 yd^3 of K001 hazardous waste.

This Aeration Pond was part of a National Pollutant Discharge Elimination System (NPDES) treatment train that was utilized for the treatment and discharge of waste water from the wood preserving process and storm water run-off from the process areas.

The Aeration Pond was closed by dewatering the pond, solidifying the residual sludges, backfilling the pond area with clean soil, and constructing a RCRA cap over the area. A perimeter soil-bentonite slurry cutoff wall with a vertical high density polyethylene (HDPE) liner encloses approximately 80% of the former pond area (Figure 8). Closure occurred between August 1987 and July 1990. ADEM Certification of Closure was issued to the facility on April 8, 1991.

1.1.5 Vacuum Ponds

The Vacuum Ponds were composed of two (2) parallel ponds, each measuring approximately 30 feet wide by 225 feet long. The depth of the ponds was approximately 8 feet. The ponds were lined with a sprayed concrete material approximately 4 inches thick on the slopes and approximately 8 inches thick in the pond bottoms. The l5-foot wide area between the ponds was not lined. The two ponds were surrounded by a 4-foot high earthen ring levee composed of a clay core and shell surface.

The Vacuum Ponds were utilized as a source of contact cooling water for the wood preserving process. In such capacity the ponds were contaminated with K001 hazardous constituents and K001 sludge was generated in the bottom of the impoundments. At the time of closure the ponds were estimated to contain a total of approximately 3,270 yd^3 of K001 hazardous waste.

The Vacuum Ponds were closed by dewatering each of the ponds, solidifying the residual sludges, backfilling the ponds with soil, and building a RCRA cap over the area. A perimeter soil-bentonite slurry cutoff wall with a vertical high-density polyethylene (HDPE) liner surrounds these ponds (Figure 8). Closure occurred between August 1987 and July 1990. ADEM Certification of Closure was issued to the facility on April 8, 1991.

1.1.6 Sand Filtration (Drying) Beds

The Sand Filtration or drying beds were rectangular concrete boxes containing one (1) to two (2) feet of sand and a bottom layer of gravel. The boxes were open at the top, elevated above ground surface, and located on the west Vacuum Pond levee. The bottom(s) of the Sand Filtration boxes were above the elevation of the water in the Vacuum Ponds so that the filtered effluent could enter the ponds. Wastewater floc mixtures that required filtering entered the top of the Sand Filtration Beds and the clarified liquid exited through weep holes at their bottoms. The process was effective at retaining the floc sludge on the sand. The clarified liquid was allowed to drain, via pipe connections, into the vacuum ponds. The dried sludge was periodically transferred to drums for shipment to a secure offsite landfill. The drying beds were approximately 30'L x l5'W x 3'D in dimension (total) and contained less than 50 yd^3 of K001 waste at the time of closure.

The K001 contaminated sludges and materials that were in the Sand Filtration Beds were placed in the west Vacuum Pond and solidified during closure. The area is within the RCRA cap area which is surrounded by the perimeter HDPE lined cutoff wall. Closure occurred between August 1987 and July 1990. ADEM Certification of Closure was issued to the facility on April 8, 1991.

1.1.7 Container Storage

Approximately 700 square feet of the south end of the warehouse was used for container storage. The storage area was wood floored and was used as temporary storage for metal barrels (drums) containing dried sludge and miscellaneous contaminated materials (gloves, etc.) for ultimate off-site disposal. There were no containers in storage at the time of closure.

Additional details and specifications pertaining to closure of the above facilities are addressed in the *Mobile Facility Closure and Post-Closure Plan* and the reports from quality assurance monitoring of the closure by Soil Testing Engineers, Inc. Documentation of closure by Soil Testing Engineers, Inc. is included as Attachment A. Figures 6, 7, 8 and 10 are "As-Built" drawings of the closed facility. Figures 9, 11, 12, 13, 14 and 15 are construction design drawing for the closed facility.

2.0 CHEMICAL AND PHYSICAL ANALYSIS OF HAZARDOUS WASTE

335-14-8-.02(5)(b) 2. Chemical and physical analyses of the hazardous waste and hazardous debris to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the wastes properly in accordance with Chapter 335-14-5.

2.1 Description of Hazardous Waste Generated

The hazardous waste that was formerly generated at the Mobile facility consisted of bottom sediment sludge from the treatment of waste water from a wood preserving process that used creosote or pentachlorophenol preservatives. This is listed hazardous waste K001 (ADEM Administrative Code Rule 335-14-2). The sludge was produced from the flocculation of wastewater with chemical flocculant and bentonite clay. The sludge (floc) was dewatered on Sand Filtration Beds and the dried sludge, which had a hard glassy pitch texture, was placed in drum containers and shipped to approved off-site facilities. The K001 sludge also accumulated in the bottom of the surface impoundments at the site.

The sludge that formed in the surface impoundments was basically an oil-water emulsion. At closure, these sludges were solidified such that their bearing capacity is capable of supporting the facility cover.

A flow diagram for the pre-closure wastewater treatment operation is presented as Figure 5. Wastewaters from the wood treating operation were initially treated in a "Blow down" vessel, API separators, and a condenser prior to entering a "Floc" tank. Wastewater was then flocculated and the clarified liquid pumped to the aeration tank. Treated water from the Aeration tank was periodically routed to the Aeration Pond, which aerated the wastewater prior to discharging it under NPDES permit. As a result of this process, the impoundment bottoms accumulated K001 sludge.

2.2 Analyses of Waste

The list of hazardous constituents which were the basis for listing K001 as hazardous is shown in Table 1. GC/MS analyses of the closed surface impoundment sludges are shown in Table 2.

2.3 Post-Closure Waste Generation

335-14-8-.02(5)(b) 3. A copy of the waste analysis plan required by 335-14-5-.02(4)(b) and, if applicable, 335-14-5-.02(4)(c).

During the post-closure period the only hazardous waste that will be generated from the closed units is from the recovery and treatment of contaminated groundwater. All water treatment activities will be conducted in a system permitted by NPDES. A copy of CFI's NPDES Permit for the Mobile Facility is included as Attachment B.

The treatment system may generate sludge, recovered creosote oil, or spent activated carbon as a result of normal operation. All exhausted activated carbon, and oily sludge wastewater treatment sludges will be conservatively manifested as K001 waste and disposed accordingly. A Waste Analysis Plan for CFI's Mobile site is included as Attachment C.

3.0 SECURITY PROCEDURES AND EQUIPMENT

335-14-8-.02(5)(b)(4) A description of the security procedures and equipment required by 335-14-5-.02(5), or a justification demonstrating the reasons for requesting a waiver of this requirement.

ADEM Adminstrative Code Rule: 335-14-8-.02(5)(b)(4) applies to active facilities. After facility closure there will be no active hazardous waste facilities remaining on the site. However, certain security equipment will be continued under 335-14-5-.078 in order to protect the integrity of the facility cap and equipment. Access by the public will not pose a hazard to human health, should access occur. However, public access will be prevented by maintenance of the site security system.

The following security equipment will be maintained during the post-closure period:

- The facility is fenced with a 6-foot high chain-link fence with a three (3) strand barbed-wire parapet (Figure 15).
- All gates, facilities and structures employed during the post-closure period are locked when CFI personnel or their representatives are not present.
- A lockable building for wastewater treatment system controls and small equipment storage.
- All facility fences and gates are posted with signs bearing the following legend:

CAUTION
UNAUTHORIZED PERSONNEL
KEEP OUT

These signs are posted so that they may be seen from any approach. Maximum distance between signs will be 50 feet. Signs are legible from a distance of 25 feet.

In addition, the sign at the facility fence gate will contain the following information:

- Name of Owner/Operator
- Address of Owner/Operator
- Telephone Number of Owner/Operator
- All monitor wells are equipped with locking covers to prevent tampering.
- A telephone is located in the office building.

4.0 POST-CLOSURE INSPECTION SCHEDULE

335-14-8-.02(5)(b)5 A copy of the general inspection schedule required by 335-14-5-.02(6)(b). Include where applicable, as part of the inspection schedule, specific requirements in 335-14-5-.09(5), 335-14-5-.10(4)(i), 335-14-5-.10(6), 335-14-5-.11(7), 335-14-5-.12(5), 335-14-5-.13(4), 335-14-5-.14(4), 335-14-5-.15(8), 335-14-5-.19(1) and .19(2), 335-14-5-.23(4), 335-14-5-.24(3), 335-14-5-.27(4), 335-14-5-.28(3), 335-14-5-.28(4), 335-14-5-.28(9), 335-14-5-.29(5), 335-14-5-.29(6), 335-14-5-.29(7), 335-14-5-.29(9), 335-14-5-.30(2), and 335-14-7-.08(3) [40 CFR 266.102(e)(8)].

The CFI facility is closed and the above referenced sections are not applicable to post-closure. An inspection schedule for the post-closure period, as specified in 335-14-5-.07(8)(1) is included in Attachment D and discussed below.

CFI has developed a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices and operating equipment (such as sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards in accordance with 335-14-5-.02-(6)(b). This schedule is kept at the Mobile facility and strictly followed.

A detailed inspection log listing each item to be inspected with notations concerning specific observations, actions and tests to be performed, is provided in Exhibit 1 of the Facility Inspection and Security Schedule, included as Attachment F. In addition, all personal protection equipment is inspected prior to each use. Any deterioration or malfunction of equipment or structures which the inspection reveals will be corrected, such that the problem does not lead to an environmental

or human health hazard. The facility inspection log, (Exhibit F-1 of Attachment F), provides space to indicate the recommended remedial action, the action taken, and the date the action was completed. In the event a hazard is imminent or has already occurred, CFI will respond as soon as possible to rectify the situation.

5.0 PREPAREDNESS AND PREVENTION

335-14-8-.02(5)(b)6. A justification of any request for a waiver(s) of the preparedness and prevention requirements of Rule 335-14-5-.03.

The CFI facility is closed.

335-14-8-.02(5)(b)7. A copy of the contingency plan required by Rule 335-14-5-.04. Note: Include, where applicable, as part of the contingency plan, specific requirements in 335-14-5-.11(8) and 335-14-5-.12(6).

335-14-8-.02(5)(b)8. A description of procedures, structures, or equipment used at the facility to:

- **(i) Prevent hazards in unloading operations (for example, ramps, special forklifts);**
- **(ii) Prevent run-off from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);**
- **(iii) Prevent contamination of water supplies;**
- **(iv) Mitigate effects of equipment failure and power outages;**
- **(v) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing); and**
- **(vi) Prevent releases to atmosphere.**

The CFI facility is closed and only waste associated with the on-site RCRA remediation will be handled during the post-closure period. Secondary containment is used for piping and water treatment areas where groundwater treatment occurs. Personnel are trained to protect themselves from exposure to contaminated groundwater. The contaminants occur at low concentrations and have relatively low vapor pressures, therefore, significant atmospheric releases do not occur.

335-14-8-.02(5)(b)9. A description of precautions to prevent accidental ignition or reaction of ignitable, reactive or incompatible wastes as required to demonstrate compliance with 335-14-5-.02(8), including documentation demonstrating compliance with 335-14-5-.02(8)(c).

All CFI remediation waste streams are expected to have flash points that retard ignition. The waste streams are not reactive.

335-14-8-.02(5)(b)10. Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

Typically, only one vehicle is used on the site and traffic control is not an issue. Although no hazardous or dangerous incidents are expected to result from post-closure activities at the site, a Contingency Plan is provided for the site as Attachment E. The plan addresses post-closure operations.

6.0 FACILITY LOCATION INFORMATION

335-14-8-.02(5)(b)11. Facility location information:

(i) The owner or operator of a new facility must identify the political jurisdiction (e.g., county, township, or election district) in which the facility is proposed to be located.

(ii) [Reserved]

(iii) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used where an FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

The entire CFI Mobile facility is located within the 100 year floodplain as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Mobile County and Incorporated Areas (Map Number 01097C0556; July 6, 1998). The property is zoned AE and the 100-year flood elevation is 12 feet (National Geodetic Vertical Datum of 1929).

(iv) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(I) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

Attachment D is an engineering analyses that was prepared prior to closing the hazardous waste units. For additional information the reader is referred to the Closure Plan and the information provided in the response to 335-14-8-.02(5)(b)11.(iv)(II) below.

(II) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

During the post-closure period the closed hazardous waste units that comprise the landfill will be protected from wave and erosion damage by the perimeter breakwater levee and road which partially encircles the closed cell. The breakwater levee has been designed to minimize the wave effects caused by a 100 mile per hour hurricane wind. Additional existing obstructions to the southeast of the closed facility will restrict the development of waves generated by a typical southeasterly hurricane wind. These obstructions include a train embankment, a train crossing (over Three Mile Creek), and a six to eight foot fill west of the CFI property boundary.

The design of the closed cell, with surrounding breakwater levee, utilizes the breakwater levee to protect the cell from washout in the event of flooding. A slope failure of the breakwater levee will not constitute a washout, as there will be no resulting movement of contaminants from the closed cell. In effect, the breakwater levee acts as a sacrificial structure to protect the cell from wave or storm damage.

If flood water levels in Three Mile Creek cause overtopping of the breakwater levee, damage to the closed cell will be limited to superficial erosion of the grass-covered topsoil layer. The vegetation root system will provide erosion protection from stormwater inundations over the completed landfill. Temporary flood waters will have no effect on the integrity of the underlying synthetic liner.
Receding floodwater is allowed to freely drain from the cell area westward through the open side of the horseshoe shaped perimeter breakwater levee road. Drainage through the open side is sufficient to eliminate large head differences on opposing sides of the breakwater levee, thus eliminating the risk of levee failure due to hydrostatic pressure.

Embankments on the exterior of the breakwater levee are designed to include a geotextile mat overlain by a stone rip-rap which provides added resistance to slope shear failure. The flexible nature of the geotextile accommodates calculated settlements of the site subsoils.

The factor of safety in sliding of the closed cell cap is greater than 1.0, due to several factors. First, the breakwater levee acts as a berm providing weight to counteract sliding below the base of the fill. Second, the cohesive strength of the levee is much greater than the surrounding soils and reduces the possibility of a failure extending through the levee. Third, the fill cap and breakwater road embankment were constructed gradually in specified lifts so that induced pore water pressures in the compressible subsoils were allowed to dissipate to safe levels during

construction. Construction in this manner results in an increase in the strength of the subsoil and a corresponding increase in fill and embankment stability. Engineering calculations are provided in the Closure Plan.

By providing the protections described above, the facility will remain in compliance with the requirements of ADEM Administrative Code Rule 335-14-5-.02(9) throughout the post-closure period. Compliance will be maintained by preventing washout of any hazardous waste by a 100-year flood or hurricane. It has been shown that a rise in flood waters to the 100-year flood elevation (12-feet NGVD) will not cause a washout of hazardous waste.

Provisions to prevent normal run-on to the cell during post-closure include the inspection and maintenance of the site breakwater levee which borders the closed cell to the north, east, and south. Run-on from the west is intercepted by an interception ditch which carries drainage southward. The closed cell's west face and rainfall collection ditches slope and drain westward, and in conjunction with the interception ditch prevent run-on from the west.

Run-off control of the post-closure facility will include maintenance of slopes of 5 percent on the final cap which have been designed to promote drainage and prevent ponding on the flexible membrane liner. Maintenance of the grassy vegetation cover will assure that erosion caused by rainfall will be minimized and will not affect the integrity of the cell cap.

(III) If applicable, and in lieu of 335-14-8-.02(5)(b)11.(iv)(I) and (b)11.(iv)(II), a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

I. Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.
II. A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under Chapters 335-14-5 through 335-14-8.
III. The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.
IV. The potential for accidental discharges of the waste during movement.

(v) Existing facilities NOT in compliance with 335-14-5-.02(9)(a) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

The CFI facility is closed and movement of waste during an emergency is not applicable**.**

7.0 PERSONNEL TRAINING PROGRAM DOCUMENTATION

335-14-8-.02(5)(b)12. An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with 335-14-5-.02(7). A brief description of how training will be designed to meet actual job tasks in accordance with requirements in 335-14-5-.02(7)(a)3.

CFI's personnel training programs are designed to instruct employees in the proper precautions and handling procedures for K001 hazardous waste constituents; and, implementation of the appropriate emergency response procedures in the event of a spill, fire, or other hazard. The goal of the program is to insure the protection of human health and the environment through proper management of hazardous waste and waste streams, chemicals or other substances that contain hazardous constituents.

The CFI personnel training program employed during the post-closure period is included as Attachment G. This plan was designed to meet the regulatory requirements of ADEM Administrative Code Rule 335-14-8-.02(5)(b)12.

8.0 CLOSURE AND POST-CLOSURE PLAN AND DOCUMENTATION

335-14-8-.02(5)(b)13 A copy of the closure plan and, where applicable, the post-closure plan required by 335-14-5-.07(3), 335-14-5-.07(9), and 335-14-5-.10(8). Include, where applicable, as part of the plans, specific requirements in 335-14-5-.09(9), 335-14-5-.10(8), 335-14-5-.11(9), 335-14-5-.12(9), 335-14-5-.13(11), 335-14-5-.14(11), 335-14-5-.15(12), 335-14-5-.19(1) and (2), 335-14-5-.23(5), 335-14-5-.24(2), 335-14-5-.24(4), 335-14-5-.30(3), and 335-14-7-.08(3) [40 CFR 266.102(e)(11)].

The Mobile site has been closed and certified closed in accordance with the applicable regulatory requirements of 335-14-5-.11(9) and 335-14-8-.02(5)(b)13.

The post-closure plan for the CFI site is contained herein and is the combination of all pertinent material contained within this document. The CFI Mobile facility closure activities are summarized in Section 1 of this document. Some of the pertinent attachments to the Part B are described below:

> Attachment C is a Waste Analysis Plan that describes the expected waste streams that will occur during the post-closure period, and provides sampling and analytical techniques that will be utilized to properly characterize the waste.
>
> Attachment E is a Contingency Plan which provides contact information and emergency response procedures for the site. CFI does not expect to implement the plan, however, it

is available should an emergency occur and be needed during the post-closure care period.

Attachment F is the Inspection and Security Schedule which provides information regarding inspection of the hazardous waste management area cap, monitoring wells, treatment systems, etc. The frequency for conducting the inspections is provided and a written log is included.

Attachment G describes the Personnel Training Program which was designed to instruct employees in the proper precautions and handling procedures for the K001 hazardous waste that is managed at the site, and implementation of the proper emergency response procedures in the event of a spill, fire, or other hazard. The goal of the program is to insure the protection of human health and the environment through proper management of hazardous waste.

Attachment P is the Groundwater Monitoring Plan for the facility. The plan describes the monitoring program and provides locations of wells to sample, sampling parameters, sampling frequency, sampling procedures and analytical techniques.

Attachment R describes the Corrective Action Plan for the facility. The plan describes recovery, injection and air sparging wells that are used to hydraulically contain and remediate the groundwater at this site.

8.1 Corrective Action Management Units

In April, 1995, CFI submitted a *Soil Corrective Action Work Plan* which proposed construction of two (2) Corrective Action Management Units (CAMUs) at the Mobile facility. The designated CAMUs consisted of the North CAMU and the Central CAMU areas. The CAMUs were constructed in general accordance with the plan and ADEM approved the CAMU Construction Certification report in correspondence dated May 6, 1998. These units have served as staging areas and treatment areas for on-site soils that contained hazardous constituent concentrations from past operations. On-site soils were excavated and placed within the CAMUs for treatment using biological techniques. Following treatment to hazardous constituent concentrations that were below risk-based action levels established for the site, the soil was used on-site as general fill.

The locations of the CAMUs are shown on Figure 3. The North CAMU was designed to serve as the primary soil treatment area, while the Central CAMU acted as a soil screening area. Attachment H provides a description of the CAMUs, locations on site that were excavated and copies of chemical analyses for the soil remediation project. Attachment H also certifies the closure of the CAMUs.

9.0 DOCUMENTATION OF NOTICE TO DEED

335-14-8-.02(5)(b)14. For hazardous waste disposal units that have been closed, documentation that notices required under 335-14-5-.07 (10) have been filed.

The hazardous waste management units at the CFI Mobile site are closed. Documentation of this certification, as provided within the final certification report by Soil Testing Engineers, Inc., is included as Attachment A of this document. The required survey plats and notices have been recorded in the deed and filed with the County of Mobile. A copy of the deed documents are provided as Attachment I.

10.0 CLOSURE COST ESTIMATE

335-14-8-.02(5)(b)15 The most recent closure cost estimate for the facility prepared in accordance with 335-14-5-.08(3) and a copy of the documentation required to demonstrate financial assurance under 335-14-5-.08(4). For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

The Mobile facility has completed its closure and an estimate is no longer pertinent. Documentation supporting this closure is provided in Attachment A.

11.0 POST-CLOSURE COST ESTIMATE AND FINANCIAL ASSURANCE

335-14-8-.02(5)(b)16 Where applicable, the most recent post-closure cost estimate for the facility prepared in accordance with 335-14-5-.08(5) plus a copy of the documentation required to demonstrate financial assurance under 335-14-5-.08(6). For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

The most recent post-closure cost estimate is included in Attachment J. The most recent post-closure financial assurance documentation is provided in Attachment K. CFI has revised the post-closure cost estimate to reflect the revised groundwater monitoring requirements following the re-issuance of the Permit.

335-14-8-.02(5)(b)17 Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of 335-14-5-.08(8). For a new facility, documentation showing the amount of insurance meeting the specification of 335-14-5-.08(8)(a) and, if applicable, 335-14-5-.08(8)(b), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, or disposal.

A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in 335-14-5-.08(8)(c).

All units are closed as this facility.

12.0 TOPOGRAPHIC MAP

335-14-8-.02(5)(b)19. A topographic map showing a distance of 1000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of HWM facilities located in mountainous areas should use large contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following:

- **(i) Map scale and date;**
- **(ii) 100-year floodplain area;**
- **(iii) Surface waters including intermittent streams;**
- **(iv) Surrounding land uses (residential, commercial, agricultural, recreational);**
- **(v) A wind rose (i.e., prevailing wind speed and direction);**
- **(vi) Orientation of the map (north arrow);**
- **(vii) Legal boundaries of the HWM facility site;**
- **(viii) Access control (fences, gates);**
- **(ix) injection and withdrawal wells both on-site and off-site;**
- **(x) Buildings; treatment, storage or disposal operations; or other structure (recreation areas, run-off control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.);**
- **(xi) Barriers for drainage or flood control; and**
- **(xii) Location of operational units within the HWM facility site, where hazardous waste is (or will be) treated, stored, or disposed (include equipment cleanup areas).**
- **(xiii) Location of all SWMUs and AOCs.**

A site plan and topographic contour map for the facility are presented as Figure 17. Additional topographic information is provided on other maps included in this document. All maps have a scale, date, north arrow and information to meet regulatory requirements. The following information can be found in the figure listed next to it.

Surface Water	Figure 1
Surrounding Land Use (USGS Topographic)	Figure 1 and Figure 2

100 Year Floodplain	Figure 30
Wind Rose	Figure 16
Legal Boundary	Figure 17
Access Control	Figure 3
Well Locations	Figures 3 and Figure 24
Buildings & Structures	Figure 3
Barriers for Drainage Control	Figures 6 & 17
Location of Former Operational Units	Figure 4
Location of Corrective Action Management Unit	Figure 3
Facility Contour Map	Figure 17
Point of Compliance Well Locations	Figure 31
Solid Waste Management Unit Locations	Figure 32

13.0 OTHER INFORMATION

335-14-8-.02(5)(b)20. Applicants may be required to submit such information as may be necessary to enable the Department to carry out its duties under other laws as required in 335-14-8-.01(3).

Acknowledged.

335-14-8-.02(5)(b)21. For land disposal facilities; if a case-by-case extension has been approved under 335-14-9-.01(5) or a petition has been approved under 335-14-9-.01(6), a copy of the notice of approval for the extension or petition is required.

Acknowledged. The CFI facility is closed.

335-14-8-.02(5)(b)22. A summary of the pre-application meeting, along with a list of attendees and their addresses, and copies of any written comments or materials submitted at the meeting, as required under Rule 335-14-8-.08(5)(a)3.

Acknowledged. The CFI facility is closed.

14.0 GROUNDWATER PROTECTION

335-14-8-.02(5)(c) Additional information requirements. The following additional information regarding protection of groundwater is required from owners or operators of hazardous waste facilities containing a regulated unit except as provided in 335-14-5-.06(1)(b):

14.1 Groundwater Monitoring Data Summary

335-14-8-.02(5)(c) 1. A summary of the groundwater monitoring data obtained during the interim status period under 335-14-6-.06(1) through (5) where applicable, or the previous period if the application is for permit renewal;

The owners of the facility elected to close the units and not operate under interim status regulations; however, a summary of site monitoring data collected during the post-closure period is included as Attachment L. Copies of laboratory analytical reports from January 1, 2009 to December 31, 2011 are provided in Attachment M. Copies of Appendix IX laboratory reports are provided in Attachment N.

14.2 Identification of the Uppermost Aquifer

335-14-8-.02(5)(c)2 Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area);

Extensive soil boring data has been accumulated for the Mobile site. Figure 18 indicates the locations of the existing geotechnical borings and monitoring wells. Soil boring logs for the Mobile site are included in Attachment O. Figure 19 is a subsurface soil profile that illustrates the types and relative thickness of subsurface soils. Site borings were conducted as part of CFI's *Ground Water Quality Assessment*, *Lower Aquifer Ground Water Quality Assessment*, and the *Mobile Facility Closure and Post Closure Plan*. Additional information can be obtained from these reports. The borings indicate that the site is directly underlain by five (5) distinct soil horizons that can be readily identified throughout much of the site area. From the surface downward they include:

(i) A layer of black organic and/or silty clay that is present throughout much of the site. The layer is approximately 10 feet in average thickness in the vicinity of the former production areas.

(ii) An "Upper Sand" layer composed of light gray to buff silty to fine sand. The thickness of this sand varies widely across the site (Figure 20), appearing to increase to the east and south near Three Mile Creek, and pinching out along the western site border.

(iii) A "Confining Clay" aquitard that is composed of a wide range of soils, ranging from peat and peaty (organic) very soft to stiff plastic clay, varying in color from black to brown and gray mixtures, to, gray, very soft to stiff, plastic, silty, sandy clay. Figure 21 is an isopach of the Confining Clay.

(iv) The "Lower Sand" is composed of a massive sand formation that ranges in composition from silty sands to coarse sand and pea gravel. This sand is laterally continuous beneath the site with a total thickness that ranges from approximately 60 to 110 feet.

(v) A very stiff blue green "Marine Clay" that is laterally continuous beneath the site and reported to have a thickness exceeding 200 feet.

Two distinct hydrogeologic units have been identified within this stratigraphic sequence and are referred to as the "Upper Aquifer" and the "Lower Aquifer". The Upper Aquifer is the uppermost permeable zone beneath the site and consists of the water-saturated sands of the Upper Sand horizon. The Upper Aquifer is separated from the Lower Aquifer by the Confining Clay aquitard. The Lower Aquifer consists of the water-bearing sands of the Lower Sand horizon. The hydraulic characteristics of each of these are summarized below.

Upper Aquifer

The Upper Aquifer is composed of a uniform layer of light gray to buff water-bearing silty sand. These sands appear to increase in thickness to the south and east, and thin to the west. In the vicinity of the hazardous waste management area silts and sands appear to transition laterally to peat and organic clay strata in the west. To the south, the Upper Aquifer is in hydraulic communication with Three Mile Creek. Figure 20 is an isopach of the Upper Sand.

Throughout the southern half of the site the Upper Aquifer is separated from the Lower Aquifer by a “Confining Clay” (aquitard). In the northern portion of the site the aquitard is missing and the Upper and Lower Aquifer are not distinct stratigraphic units in this area, i.e., they form a single water-bearing unit.

The horizontal groundwater flow in the Upper Aquifer is generally to the south-southeast, towards Three Mile Creek, but has been modified locally by the installation of the HDPE-lined cutoff wall and corrective action recovery wells (Figure 22). The average hydraulic gradient for the Upper Aquifer is 0.0009 ft/ft, based on the November 2011 water levels in wells RW-7 and B-128.

The average linear horizontal groundwater velocity (v) in the Upper Aquifer can be calculated using the modified Darcy Equation (Freeze and Cherry, 1979).

$$v = ki/n$$

where v = velocity (cm/s)
i = hydraulic gradient (ft/ft)
n = soil porosity

Using this equation an average linear groundwater flow rate of 0.030 ft/day was calculated using the average hydraulic gradient of 0.0009 ft/ft, assuming an effective porosity of 0.20, and using the average hydraulic conductivity of the Upper Aquifer (6.6 ft/day - Corrective Action Plan of July 14, 1992). Groundwater flow rates are considerably higher in the vicinity of the recovery wells.

Lower Aquifer

The Lower Aquifer is generally encountered in borings that extend beyond 20 to 30 feet below land surface. It is composed of a relatively massive water-bearing sand with thickness that ranges from 60 to 110 feet. This unit has been found in all of the deeper borings and appears to continuously underlie the site.

Figure 23 is a potentiometric map of the Lower Aquifer based on water level measurements obtained in November 2011. Groundwater flow is generally to the southeast, toward the groundwater recovery wells RW-8A, RW-8B, RW-9 and RW-10. The average hydraulic gradient was calculated to be 0.002 ft/ft, based on water level data from wells UG-2, B-27, B-59A and B-25. An average linear groundwater flow rate of 0.96 ft/day was calculated using the average hydraulic gradient (0.001 ft/ft), assuming an effective porosity of 0.25, and using the average hydraulic conductivity of the Lower Aquifer (120 ft/day - Corrective Action Plan of July 14, 1992). Groundwater flow rates are accelerated in the vicinity of the recovery wells.

14.3 "Point of Compliance" Well Locations

335-14-8-.02(5)(c)3 On the topographic map required under 335-14-8-.02(5)b)19., a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under 335-14-5-.06(6), the proposed location of groundwater monitoring wells as required under 335-14-5-.06(8), and, to the extent possible, the information required in 335-14-8-.02(5)(c)2.;

The waste management area, property boundary and the "point of compliance" well locations are indicated on Figure 31. The proposed locations of the groundwater monitor wells are provided in the Groundwater Monitoring Plan, Attachment P.

14.4 Description of Any Contamination Plume

335-14-8-.02(5)(c 4. A description of any plume of contamination that has entered the groundwater from a regulated unit at the time that the application was submitted that: (i) Delineates the extent of the plume on the topographic map required under 335-14-8-.02(5)(b)19.; (ii) Identifies the concentration of each Chapter 335-14-5-Appendix IX

constituent throughout the plume or identifies the maximum concentrations of each Chapter 335-14-5-Appendix IX constituent in the plume;

Past operations at this site have resulted in an impact to the shallow groundwater by wood treating constituents. Appendix IX and subsequent post-closure analyses of the groundwater for metals, volatile organics, base neutral and acid extractable compounds have produced a sizeable database of analytical data that characterize the impact.

During the operating life of the facility, two types of wood treatment occurred, treatment with a pentachlorophenol-based preservative and treatment with a creosote-based preservative. Creosote was used for a much longer time period than pentachlorophenol, and the organic compounds observed in the groundwater underlying the site are those predominantly found in creosote.

Attachment L presents a historical analytical summary for samples collected from site monitoring wells during the time period January 1, 2001 through December 31, 2011 (last semiannual sampling). Tables L-1 and L-2 provides a summary of analytical results for the last 3 years.

Figure 24 provides the most recent (September, 2011) total volatile organic isoconcentration contours for the Upper Aquifer. An analysis of the data indicates that the total volatile organic contaminant concentration typically makes up less than 1 percent of the observed groundwater organics. As indicated in the figure and in Attachment L-1, the highest concentrations of volatile organics were observed in wells RC-3 and RW-6, on the south side of the Hazardous Waste Management Area and well E-1 on the north side.

Figure 25 provides the most recent (September, 2011) total phenolic isoconcentration contours for the Upper Aquifer. An analysis of the data indicates that the total phenol contaminant concentration typically makes up less than 4 percent of the observed groundwater organics where it is present. As indicated in the figure and in Attachment L-1, the highest concentrations of phenols were observed in wells RC-1 and RW-6, on the east side of the Hazardous Waste Management Area.

Figure 26 provides the most recent (September, 2011) total base/neutral constituent isoconcentration contours for the Upper Aquifer. An analysis of the data indicates base/neutral constituents typically makes up greater than 95 percent of the observed groundwater organics. As indicated in the figure and in Attachment L-1, the highest concentrations of base/neutral constituents were observed in wells RC-1, RW-6, T-2, RC-3 and E-1, in the vicinity of the Hazardous Waste Management Area.

Figure 27 provides the most recent (September, 2011) total volatile organic isoconcentration contours for the Lower Aquifer. The total volatile organic concentration ranges up to 20 percent

of total organics (RC-1A). As indicated in the figure and in Attachment L-1, the highest concentrations of volatile organics were observed in wells RW-2, RW-3a, RW-4 and RW-5 and RC-1A, which are screened beneath the Hazardous Waste Management Area. Comparing these values with those of the Upper Aquifer (Figure 24) indicate that the volatile concentrations in the Upper Aquifer to be similar.

Figure 28 provides the most recent (September, 2011) total phenolic isoconcentration contours for the Lower Aquifer. The total phenol contaminant concentration typically makes up less than 2 percent of the observed groundwater organics. As indicated in the figure and in Attachment L-1, the highest concentrations of Lower Aquifer phenols were observed in wells RW-3, RW-4 and RW-5, which are screened beneath the Hazardous Waste Management Area, respectively. Comparing the highest total concentrations observed in Figure 28 with those of Figure 25 reveals similar concentrations in the Upper and Lower Aquifer.

Figure 29 provides the most recent (September, 2011) total base/neutral constituent isoconcentration contours for the Lower Aquifer. The base/neutral constituents make up 80 percent or more of the observed groundwater organics in the Lower Aquifer. As indicated in the figure and in Attachment L-1, the highest concentrations of base/neutral constituents were observed in wells RW-3A, RW-4, RW-5, RC-1A and RC-2A, which are screened beneath the Hazardous Waste Management Area. Comparing the highest total concentrations observed in Figure 29 with those of Figure 26 reveals generally lower concentrations in the Upper Aquifer than in the Lower Aquifer.

14.4.1 Extent of Contaminant Plume

The extent of the groundwater contaminant plume as of September, 2011 is indicated on the scaled drawings provided as Figures 24 through 29. The analytical results for these figures are summarized in Attachment L and copies of the laboratory analytical reports with chain-of-custody documentation are provided in Attachment M.

Prior to implementation of groundwater corrective action at this facility, the contaminant plume extended to the facility property boundary along the southeastern side of the facility. At that time (1992), low levels of volatile organics and base/neutral constituents were observed in the downgradient wells DG-1A, B-102. As a result of the corrective action, the contaminant levels in these wells have decreased to concentrations that are below the method detection limit.

14.4.2 Characteristics of Contaminant Plume

A discussion of the contaminants that compose the groundwater plume is provided in Section 14.4, above. The results for all Appendix IX sampling events are provided in Attachment N. Attachment L is a summary of the historical data for each Appendix IX constituent that has been detected at this facility for the time period January 1, 2002 through December 31, 2011.

The historical data (Attachment L) indicate the contaminant plume is composed of polycyclic aromatic hydrocarbons (PAHs), phenols, volatile organic compounds and metals. Of these base/neutral constituents typically makes up greater than 95 percent of the contaminants in the Upper Aquifer and 80 percent or more in the Lower Aquifer concentration present. A listing of groundwater constituent concentrations in each monitoring well is provided in Attachment L. The parameter list includes all Appendix IX parameters detected at this site. Copies of the Appendix IX laboratory reports are provided in Attachment N.

Tables L-1 and L-2 (Attachment L) provide descriptive statistics for the data collected during the last three years. The tables show the number of times each constituent was detected at a concentration that exceed the method detection limit and also the number of times the concentration exceeded health risk-based criteria. Table L-4 provides organic constituent statistics for each well location that is routinely sampled.

15.0 GROUNDWATER MONITORING

335-14-8-.02(5)(c)5 Detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of 335-14-5-.06(8);

Past industrial activities at the CFI site have resulted in an impact to both the Upper and Lower Aquifers. CFI has implemented a corrective action program to remediate the groundwater in the vicinity of the closed units that is impacted by the constituents of concern. The required Groundwater Monitoring Plan for the site is included as Attachment P.

15.1 Detection Monitoring Program

335-14-8-.02(5)(c)6 If the presence of hazardous constituents has not been detected in the groundwater at the time of permit application, the owner or operator must submit sufficient information, supporting data and analyses to establish a detection monitoring program which meets the requirements of 335-14-5-.06(9). This submission must address the following items specified under 335-14-5-.06(9):

(i) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the groundwater;
(ii) A proposed groundwater monitoring system;
(iii) Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and
(iv) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data;

A detection monitoring program is not presently applicable at this facility due to the impact of the closed units on the shallow groundwater.

15.2 Compliance Monitoring Program

335-14-8-.02(5)(c)7 If the presence of hazardous constituents has been detected in the groundwater at the point of compliance at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of 335-14-5-.06(10). Except as provided in 335-14-5-.06(9)(g)5., the owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of 335-14-5-.06(11), unless the owner or operator obtains written authorization in advance from the Department to submit a proposed permit schedule for submittal of such a plan. To demonstrate compliance with 335-14-5-.06(10), the owner or operator must address the following items:

(i) A description of the wastes previously handled at the facility;
(ii) A characterization of the contaminated groundwater, including concentrations of hazardous constituents;
(iii) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with 335-14-5-.06(8) and (10);
(iv) Proposed concentration limits for each hazardous constituent, based on the criteria set forth in 335-14-5-.06(5)(a), including a justification for establishing any alternate concentration limits;
(v) Detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of 335-14-5-.06(8); and
(vi) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data; and

The facility is conducting corrective action and is proposing a groundwater monitoring program to monitor the corrective action as described below.

16.0 CORRECTIVE ACTION PROGRAM

335-14-8-.02(5)(c)8. If hazardous constituents have been measured in the groundwater which exceed the concentration limits established under 335-7-2-.03(1), 335-7-2-.04(1), or Table 1 of 335-14-5-.06(5), or if groundwater monitoring conducted at the time of permit application under 335-14-6-.06(1) through (5) at the waste boundary indicates the presence of hazardous constituents from the facility in groundwater over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of 335-14-5-.06(11). However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the Department that alternate concentration limits will protect human health and the environment after considering the criteria listed in 335-14-5-.06(5)(b). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of 335-14-5-.06(10) and 335-14-8-.02(5)(c)6. To demonstrate compliance with 335-14-5-.06(11), the owner or operator must address, at a minimum, the following items:

16.1 Groundwater Characterization

335-14-8-.02(5)(c)8(i) A characterization of the contaminated groundwater, including concentrations of hazardous constituents;

The hazardous waste previously managed at this facility as part of the wood treating process was the listed waste hazardous waste K001 (bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol preservatives). The K001 waste was managed in the Aeration Pond, the two Vacuum Ponds and other units described in Section 1.1. Releases from these units and other site operations associated with the treatment process resulted in a impact to the shallow groundwater at the facility, predominantly by the constituents that are known to be associated with this waste stream. The constituents that are commonly found in K001 waste are listed in Table 1.

The groundwater at this facility has been analyzed for Appendix IX constituents to fully characterize the contaminants that were released during past operations. Copies of Appendix IX laboratory reports are provided in Attachment N. Please refer to Section 14.4 of this document for additional information pertaining to the characteristics of the groundwater plume.

Additionally, Attachment L provides a summary of the analytical results for each monitoring well, as described below.

CFI has analyzed the list of Appendix IX constituents originally identified in the groundwater since January 1991 in accordance with the existing Post-Closure Permit. Attachment L is a statistical summary of that data for the last three years. Table L-1 (Attachment L) provides descriptive statistics for the organic constituents collected during the last three years. Table L-2 provides similar statistics for the inorganic constituents. Table L-3 compares the most recent results for each well to health-based values.

16.2 Groundwater Concentration Limits

335-14-8-.02(5)(c)8(ii) The concentration limit for each hazardous constituent found in the groundwater as set forth in 335-14-5-.06(5);

Past activities at the CFI site have resulted in an impact to the shallow groundwater by the organic wood treating constituents that formed the creosote and pentachlorophenol preservative mixtures. CFI has evaluated the health risk to potential receptors in *Health Risk-Based Action Levels for the CFI Mobile, Alabama Site* (Foster Wheeler, 1995), which was subsequently approved by the ADEM in correspondence dated May 23, 1996.

CFI proposes to use the default concentrations that ADEM includes in the final permit. It is CFI's belief that any alternative concentration limits will not be met within the permit's 10-year time frame.

16.3 Groundwater Corrective Action

335-14-8-.02(5)(c)8(iii)Detailed plans and an engineering report describing the corrective action to be taken; and

CFI has implemented corrective action for the Mobile site. The Corrective Action Plan is included as Attachment R.

16.4 Groundwater Monitoring Program Effectiveness

335-14-8-.02(5)(c)8(iv) A description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action.

CFI employs a separate groundwater monitoring system for each of two water-bearing soil horizons that underlie the Mobile facility. These groundwater monitoring systems monitor the shallow groundwater quality in both the Upper Aquifer and the Lower Aquifer.

The groundwater monitoring system uses a common upgradient well, well UG-2, which is located south of the office and north of the Hazardous Waste Management Area. The well serves both aquifers as an upgradient well since the confining clay aquitard is not present in this area and the two aquifers appear to be hydraulically connected.

The facility will use additional wells to monitor the groundwater in the vicinity of the closed units and hydraulically downgradient. These wells will consist of the proposed point of compliance wells as required in ADEM Administrative Rule 335-14-5-.06(6), and additionally, corrective action effectiveness wells and contaminant plume boundary wells.

CFI has proposed four (4) point of compliance wells for the Upper Aquifer and four (4) point of compliance wells for the Lower Aquifer. These wells are located near the outer perimeter of the Hazardous Waste Management Area and will be used to evaluate releases from the closed units.

CFI has proposed corrective action effectiveness wells to monitor the performance of the corrective action. They will be useful in determining:

- the internal plume contaminant concentration,
- the contaminant concentration gradients within the plume,
- changes in the contaminant concentration within the plume over time, and
- the effect of modifications to the corrective action design, either through planned changes or component failure.

CFI has proposed contaminant plume defining wells to monitor the outer (downgradient) extent of the contaminant plume. These wells will be useful in:

- demonstrating the effectiveness of the corrective action,
- evaluating the downgradient movement of the plume, and
- delineating the lateral limits of the contaminant plume downgradient of the hazardous waste management area.

CFI will maintain a network of piezometers at the site that will be used to monitor the water levels in the vicinity of the closed units. This data will be used to verify that the groundwater recovery system is effectively controlling the hydraulic gradients in the vicinity of the site and can be used to monitor hydraulic stresses associated with the corrective action components.

CFI's has conducted a statistical analysis of the groundwater monitoring data generated during the last three (3) years that can be used to determine what waste specific constituents, as identified through past Appendix IX analysis, are the best indicators of groundwater contaminants at this facility. The statistical analysis is provided in Attachment L of this application. The proposed groundwater monitoring program is further described in Attachment P.

16.5 Corrective Action Program Submittal Schedule

335-14-8-.02(5)(c)8(v) The permit may contain a schedule for submittal of the information required in 335-14-8-.02(5)(c)8.(iii) and (iv) provided the owner or operator obtains written authorization from the Department prior to submittal of the complete permit application.

A corrective action program has been implemented for the CFI site. A copy of the Corrective Action Plan is provided as Attachment R.

17.0 SOLID WASTE MANAGEMENT UNITS

335-14-8-.02(5)(d)Information requirements for solid waste management units.

1. The following information is required for each solid waste management unit at a facility seeking a permit:

(i) **The location of the unit on the topographic map required under 335-14-8-.02(5)(b)19.**

Figure 32 and Figure S-1 are site maps which depicts the location of each solid waste management unit identified at the Mobile site.

(ii) **Designation of type of unit.**

(iii) General dimensions and structural description (supply any available drawings).

(iv) When the unit was operated.

(v) **Specification of all wastes that have been managed at the unit, to the extent available.**

See Table S-1 for a summary of solid waste management unit information, including the name and number of each unit, the general dimensions, operational time frame and type of waste managed.

2. The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of hazardous wastes or hazardous constituents from such unit or units.

See Attachment S.

3. The owner/operator must conduct and provide the results of sampling and analysis of groundwater, land surface, and subsurface strata, surface water, or air which may include the installation of wells, where the Department ascertains it is necessary to complete a RCRA Facility Assessment that will determine if a more complete investigation is necessary.

See Attachment S.

4. The owner or operator must provide documentation of compliance with the requirements of the Uniform Environmental Covenants Program in ADEM Admin. Code div. 335-5 for all solid waste management units and areas of concern (including regulated units) for which remediation does not achieve the standard of unrestricted use.

See Attachment S.

TABLES

TABLE 1
BASIS FOR LISTING K001 HAZARDOUS WASTE
Cavenham Forest Industries LLC
Mobile, Alabama

pentachlorophenol
phenol
2-chlorophenol
p-chloro-m-cresol
2,4-dimethylphenol
2,4-dinitrophenol
trichlorophenols
tetrachlorophenols
creosote
chrysene
napthalene
fluoranthene
benzo(b)fluoroanthene
benzo(a)pyrene
indeno(1,2,3-c,d)pyrene
benz(a)anthracene
dibenz(a,h)anthracene
acenaphthalene

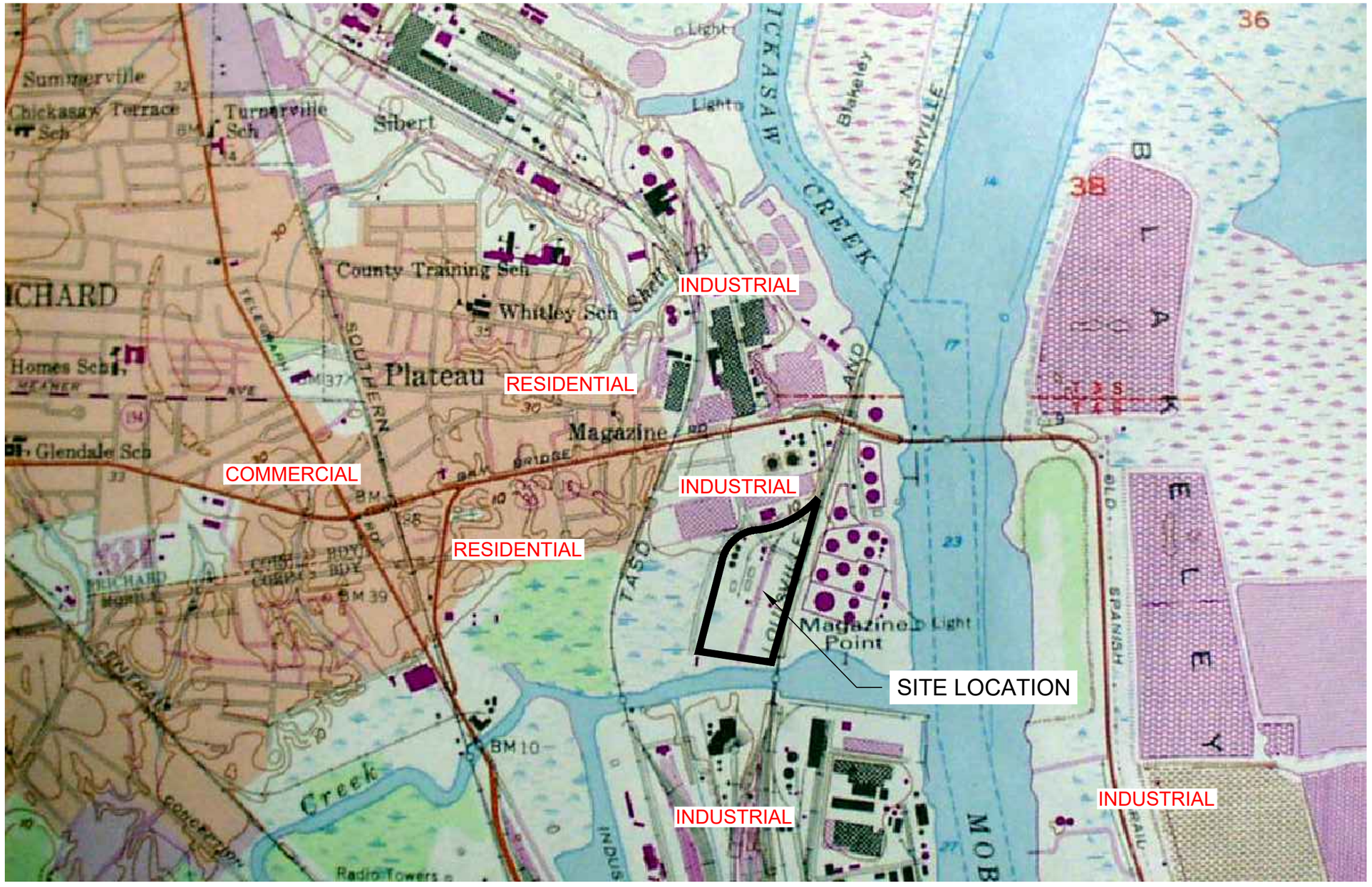
Source: ADEM Admin Code Rule 335-14-2, Appendix VII

TABLE 2
GC/MS ANALYSIS OF MOBILE K001 WASTES
Cavenham Forest Industries LLC
Mobile, Alabama

Sampled 11/3/80

Constituent of Concern	Vacuum Pond Sludge	Aeration Pond Sludge
	ppm - dry weight	
Phenol	250	40
2-Nitrophenol	250	40
2,4 Dichlorophenol	250	40
2,4 Dimethylphenol	250	40
2,4,6 Trichlorophenol	250	40
4 Nitrophenol	250	40
2,4 Dinitrophenol	250	40
4,6 Dinitro-o-cresol	250	40
4 Chloro-m-cresol	250	40
Pentachlorophenol	15,600	262
2 Chlorophenol	250	40
Anthracene	5,900	400
Napthalene	6,250	400
Chrysene	1,250	400
Phenanthrene/Anthracene	22,700	494
1,2 Benzo (a) Anthracene	866	400
Benzo (a) Pyrene	654	400
Volatile Organics		
Benzene	6.698	0.229
Toluene	42.4	0.053
Ethylbenzene	67.8	0.053

FIGURES



N

SCALE: 1 INCH = .5 MILE

.25 .25 .5

0 .25 .5 1.0

REFERENCE: USGS MOBILE QUADRANGLE
7.5 MINUTE SERIES: 1953
PHOTO REVISED 1982.

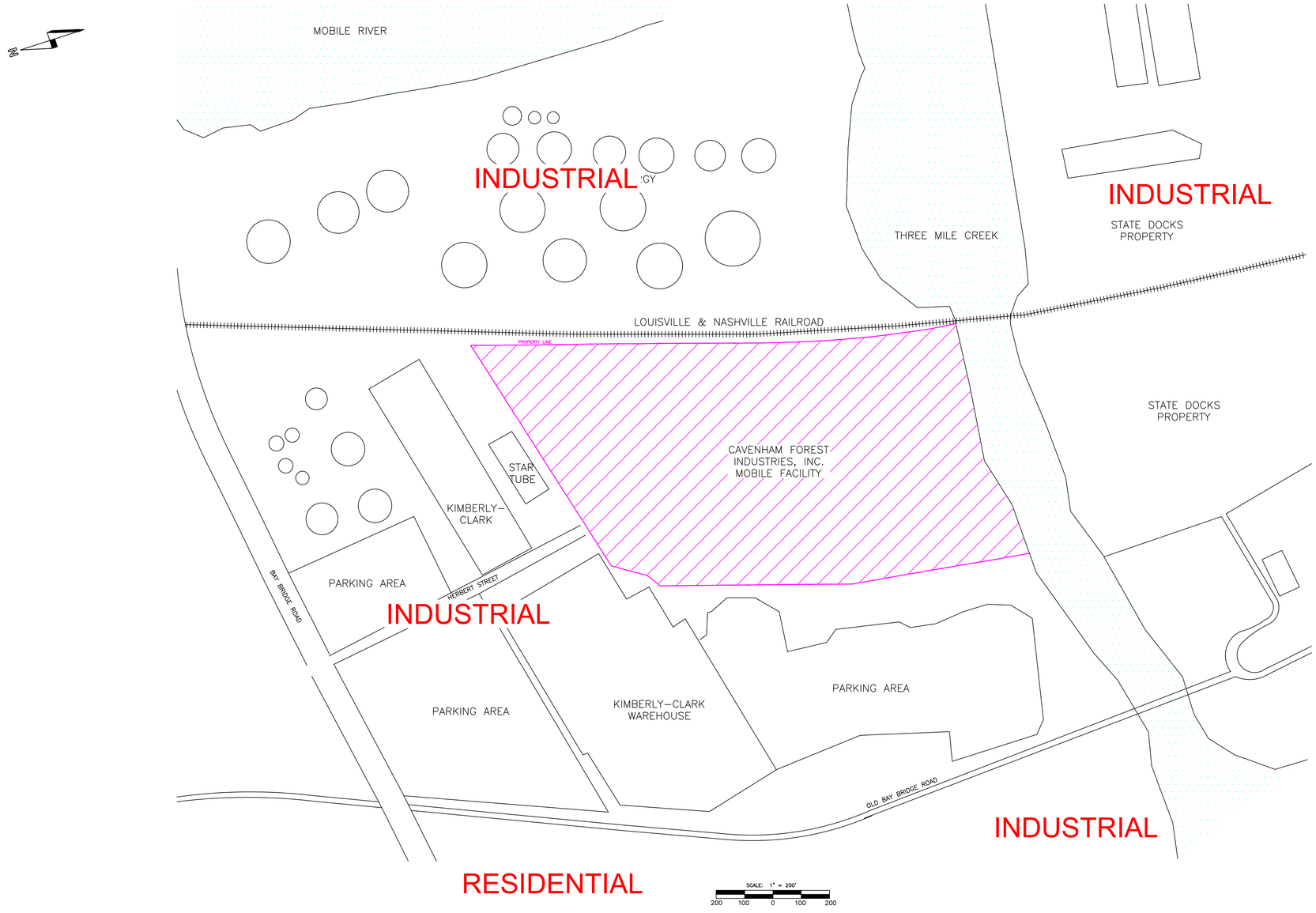
SITE LOCATION

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____ DATE: _____	DRAWN BY: K.R.K.
SCALE: 1" = 0.5 MILE		CAD NO. Fig 01 SITE LOCATION

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 1



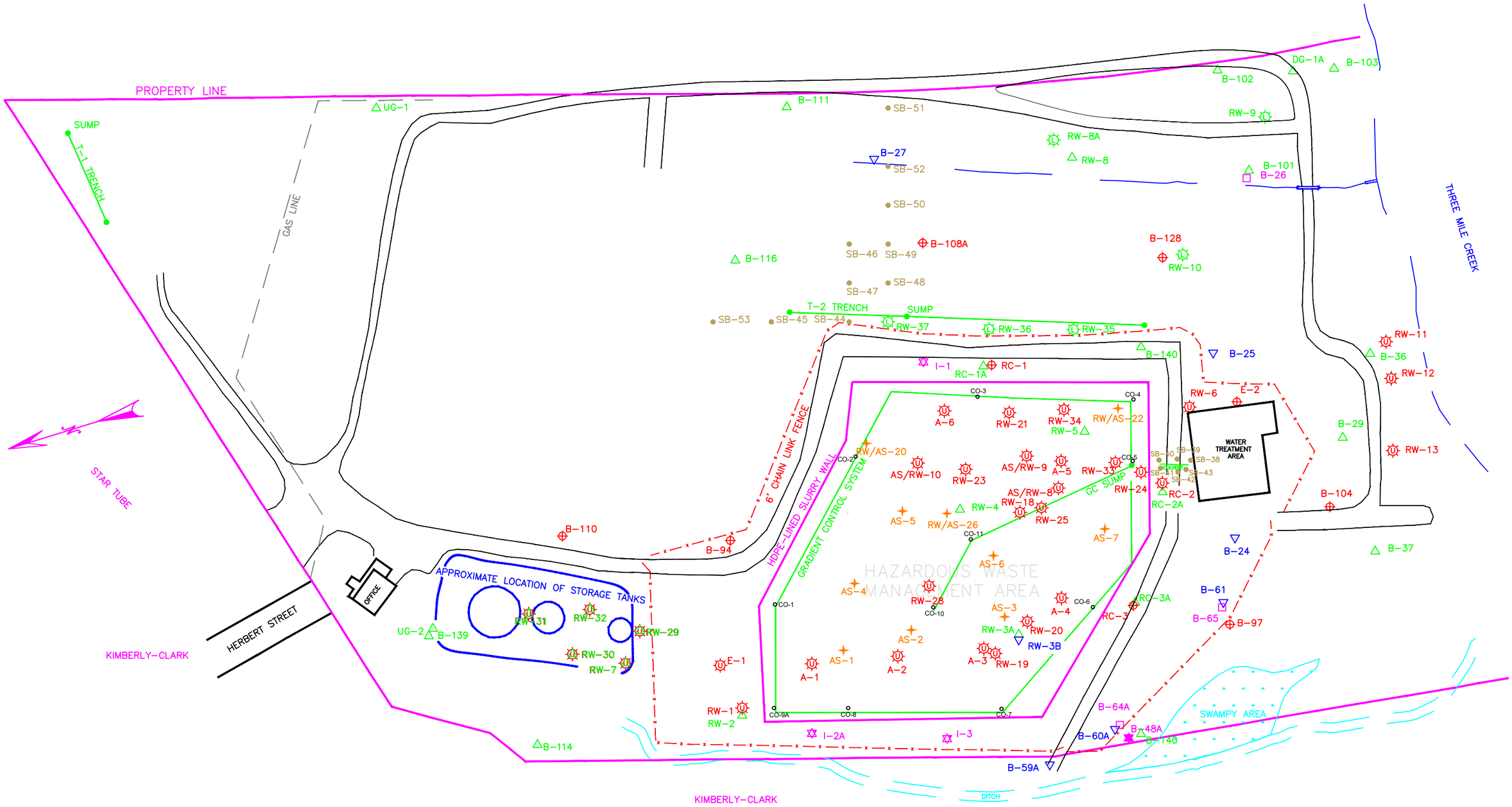
VICINITY MAP

CAVENHAM FOREST INDUSTRIES LLC – MOBILE ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____ DATE: _____	DRAWN BY: K.R.K.
SCALE: 1" = 200'		CAD NO. Fig 03 – Site Plan.dwg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 2



LEGEND

- UPPER AQUIFER MONITOR WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- SOIL BORING
- UPPER AQUIFER RECOVERY WELL
- UPPER AQUIFER INJECTION WELL
- LOWER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- AIR SPARGING WELLS

SCALE: 1" = 125'

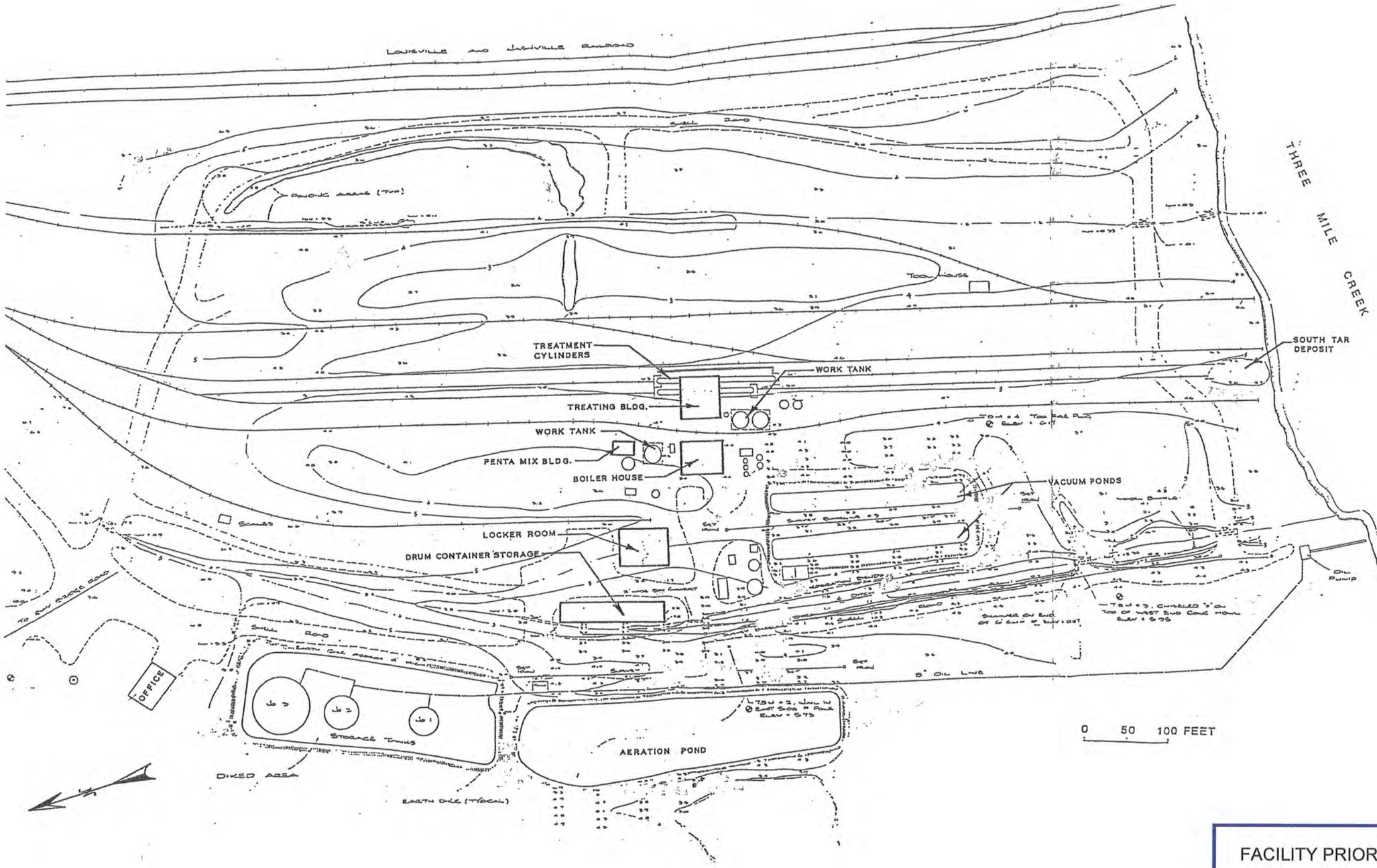
125 62.5 0 62.5 125

Site Plan

CAVENHAM FOREST INDUSTRIES LLC. – MOBILE, AL

DATE: 8/24/2023	APPROVED: BY: DATE:	DRAWN BY: KRK	
SCALE: 1" = 125'		CAD NO. WELL LOCATION MAP	FIGURE 3

ENVIRONMENTAL MANAGEMENT SERVICES, INC.



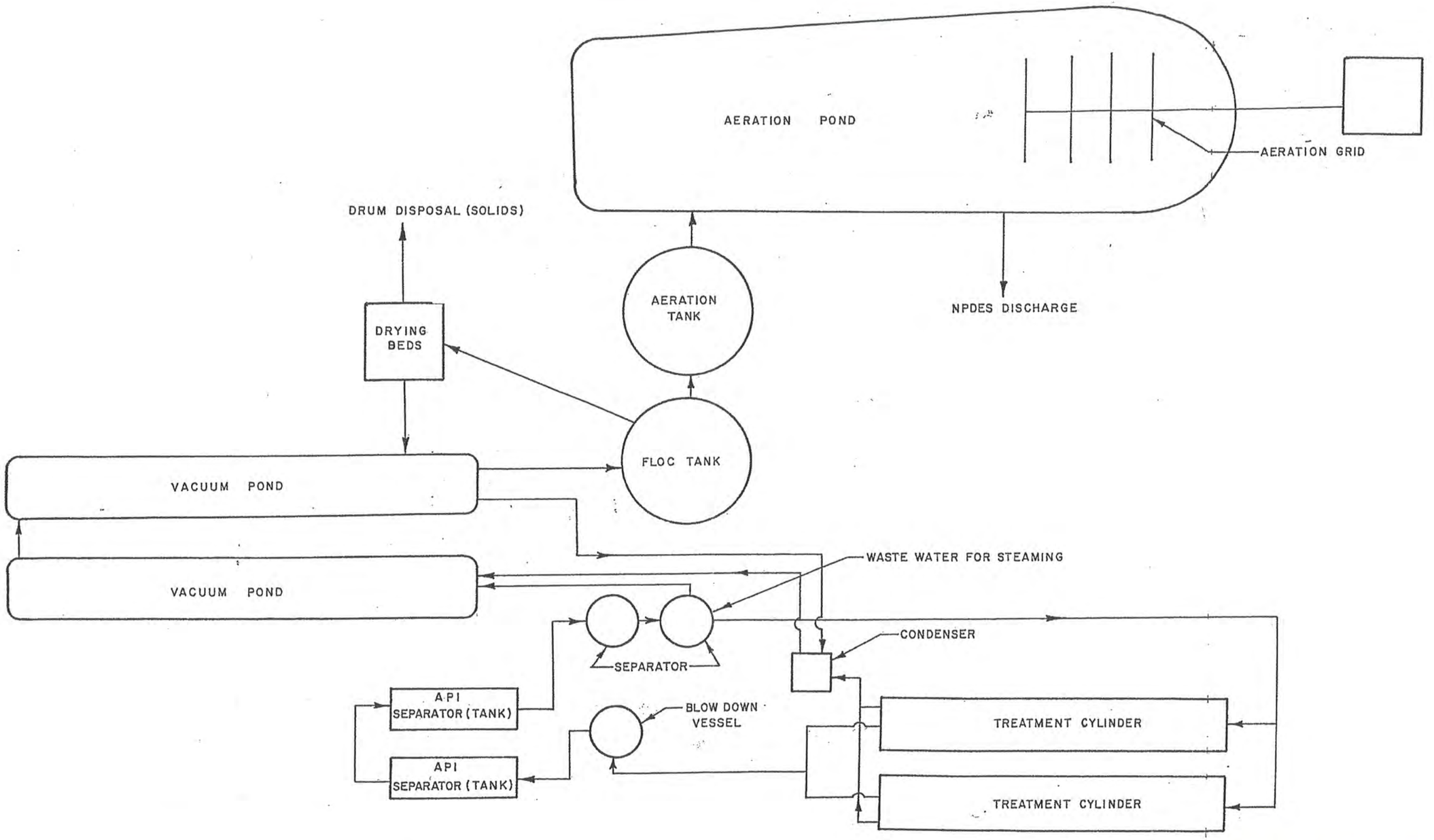
FACILITY PRIOR TO CLOSURE

CAVENHAM FOREST INDUSTRIES, LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 4 PRIOR CLOSURE

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 4



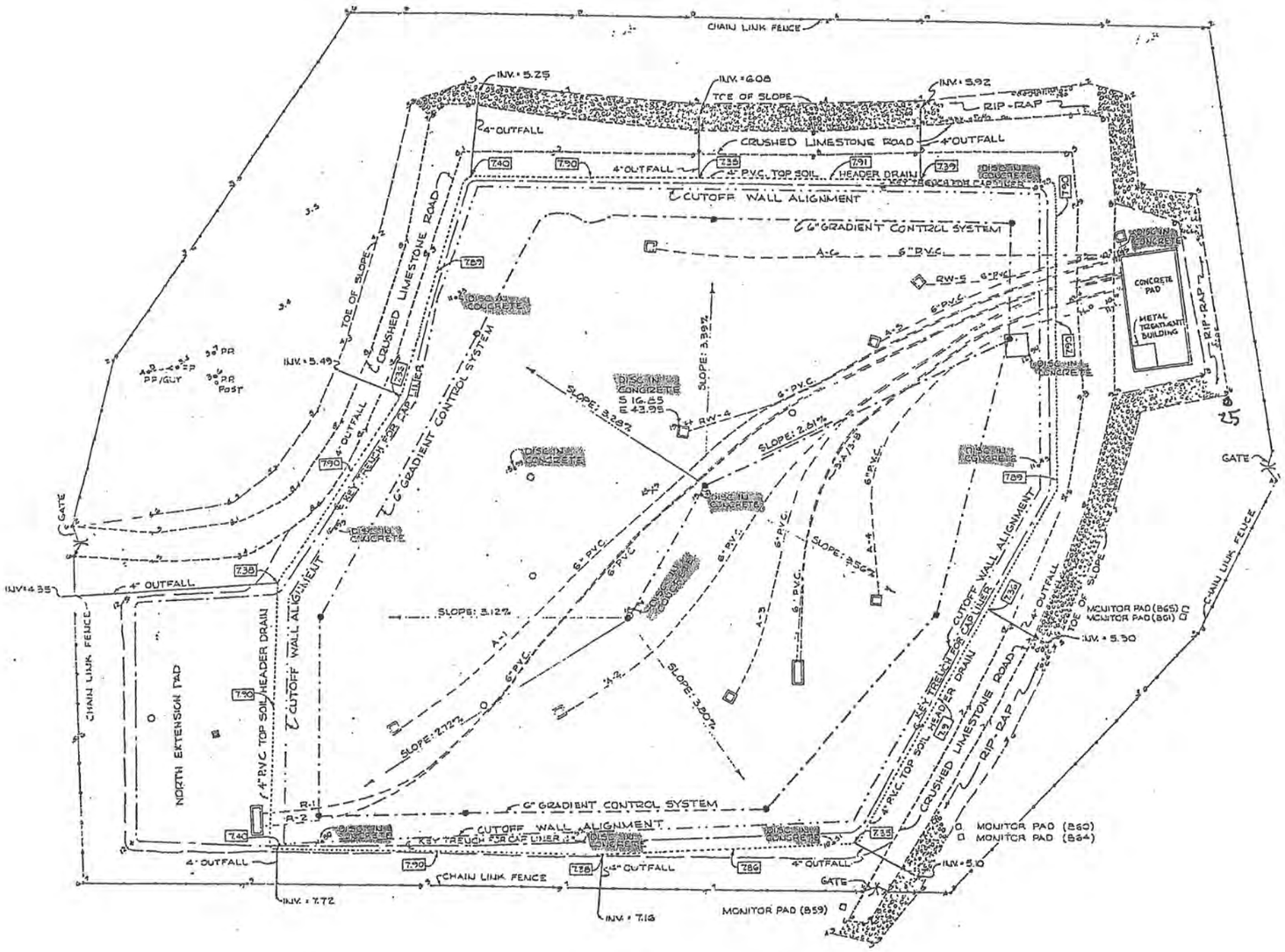
PRE-CLOSURE FLOW DIAGRAM FOR WASTEWATER & HAZARDOUS WASTE PROCESS

CAVINHAM FOREST INDUSTRIES, LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: N.T.S.		CAD NO. Fig 5 FLOW DIAGRAM

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 5



LEGEND

- RECOVERY WELL SUMP
- RECOVERY WELL SUMP
- GAS VENT RISER
- GRADIENT CONTROL SYSTEM (FOR INVERT ELEVATIONS SEE SHEET 2 OF 2)
- GRADIENT CONTROL SYSTEM VENT
- GRADIENT CONTROL SYSTEM SUMP
- OBSERVATION WELL AND PAD
- DISC IN CONCRETE
- CUTOFF WALL ALIGNMENT (DETERMINED 6/17/89)
- 735 — 4" P.V.C. TOPSOIL HEADER DRAIN (INVERT ELEVATIONS PROVIDED BY MERIT INDUSTRIAL CONSTRUCTORS, INC.)
- RIP-RAP

REF: "AS BUILT" SURVEY OF CLOSURE SITE
MERIT INDUSTRIAL CONSTRUCTORS, INC.
MAY 1990, SHEET 1 OF 2.

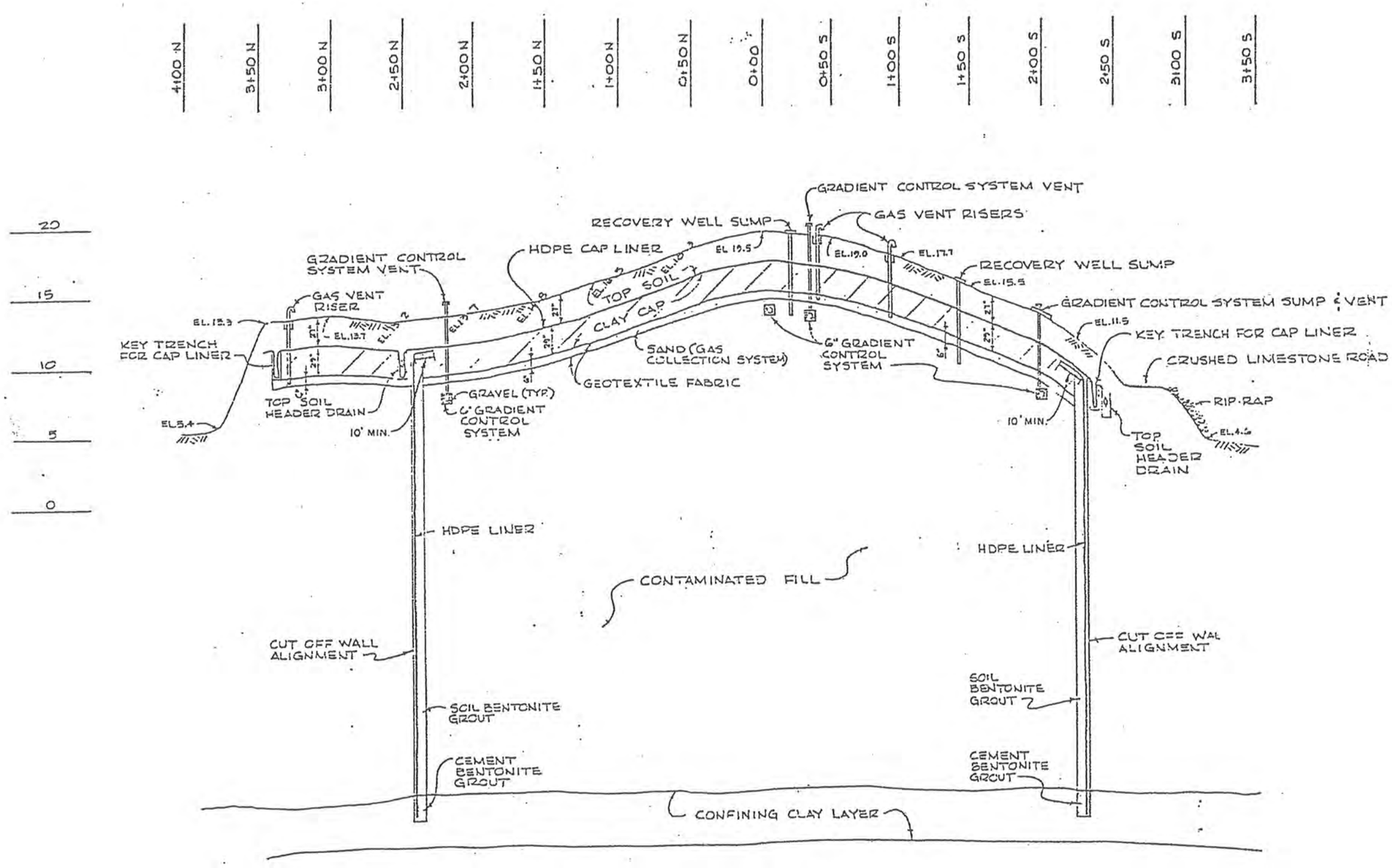
MOBILE CLOSURE "AS BUILT"

CAVENHAM FOREST INDUSTRIES, LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: N.T.S.		CAD NO. FIG06 CLOSURE AS BUILT

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 6



SECTION OF CLOSURE SITE

REF: "AS BUILT" SURVEY OF CLOSURE SITE
MERIT INDUSTRIAL CONSTRUCTORS, INC.
JUNE 1990, SHEET 2 OF 2.

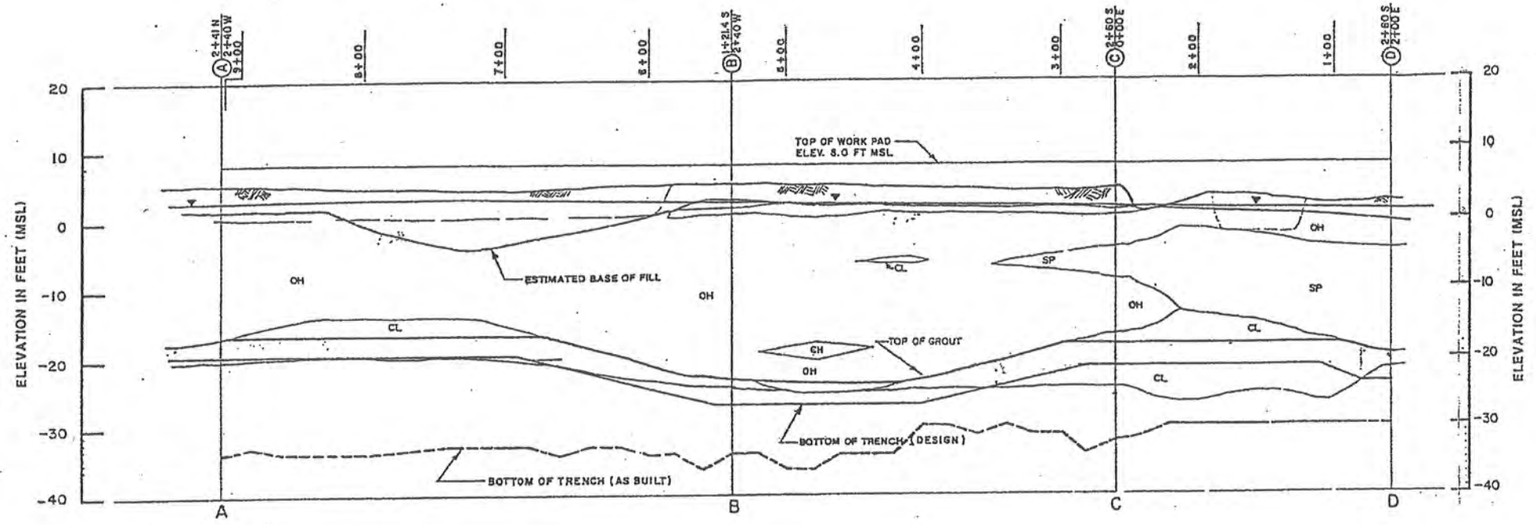
MOBILE CLOSURE
CROSS-SECTION "AS BUILT"

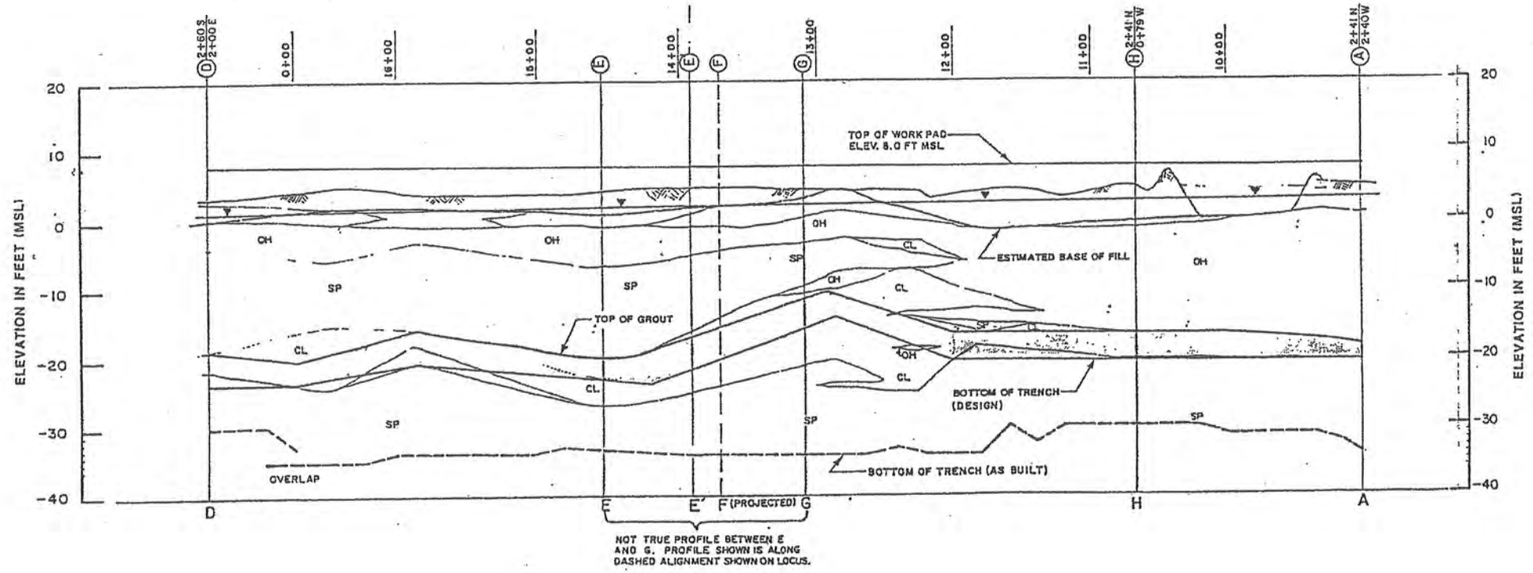
CAVENHAM FOREST INDUSTRIES, LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 7 AS BUILT CROSS SEC.

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 7





NOTE:
GRADE SHOWN IS AS EXISTED IN MAY 1987.

LEGEND

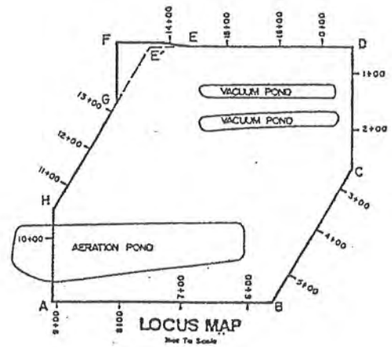
ML — SILT

CL — CLAY

OH — ORGANIC CLA

PT — PEAT

SP — SAND



50 0 50 100
scale feet

"AS BUILT" CUTOFF WALL ALIGNMENT AND PROFILE

CAVENHAM FOREST INDUSTRIES, LLC — MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 8 CUTOFF WALL

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 8

NOTES

1. CONTRACTOR SHALL MAINTAIN CONSTRUCTION DRAINAGE INCLUDING PUMPING AS NECESSARY TO DRAIN EXCAVATED AREAS.
2. ROUGH GRADING INCLUDES GRADING OF WASTE, CONTAMINATED SOIL, AND UNUSABLE SURCHARGE.

0+38 N 2+05 E
1+16 N 2+05 E
9.0 FT MSL
9.0 FT MSL
12" (MIN)
20'
0+18 N 2+00 E
0+80 N 2+00 E
BOILER HOUSE PILE FOUNDATION CUT OFF 3 TO 4 FEET BELOW EXISTING GROUND SURFACE.
NOTE. FOR DETAIL SEE DRAWING NO. 15
0+67 N 1+80 E
1+16 N 1+38 E
2+60 S 2+00 E
2+40 S 1+80 E
INV EL 0.0 FT MSL
CUTOFF WALL ALIGNMENT
9.0 FT MSL
9.0 FT MSL
24"
DITCH INVERT 0.0 FT MSL
GRADIENT CONTROL PIPING
0+45 S 0+20 E
2+40 S 0+20 E
INV EL 0.25 FT MSL (APPROX.)
2+40 S 0+05 E
2+60 S 0+00 E
0+04 N 0+65 W
INV. EL 1.0 FT MSL
9.0 FT MSL
20'
12" (MIN)
9.0'
2+21 N 0+83 W
2+41 N 0+79 W
3+26 N 0+79 W
4.0 FT MSL
2+21 N 2+20 W
1+10 S 2+20 W
3+26 N 2+40 W
2+41 N 2+40 W
1+21.4 S 2+40 W
5.0' (MIN)
12" (MIN)
20'

——— GRADIENT CONTROL SYSTEM SOLID PIPE
– – – – GRADIENT CONTROL SYSTEM PERFORATED PIPE
• GRADIENT CONTROL SYSTEM CLEAN-OUT
▣ GRADIENT CONTROL SYSTEM SUMP

50 0 50 100
scale feet

GRADIENT CONTROL SYSTEM PLAN

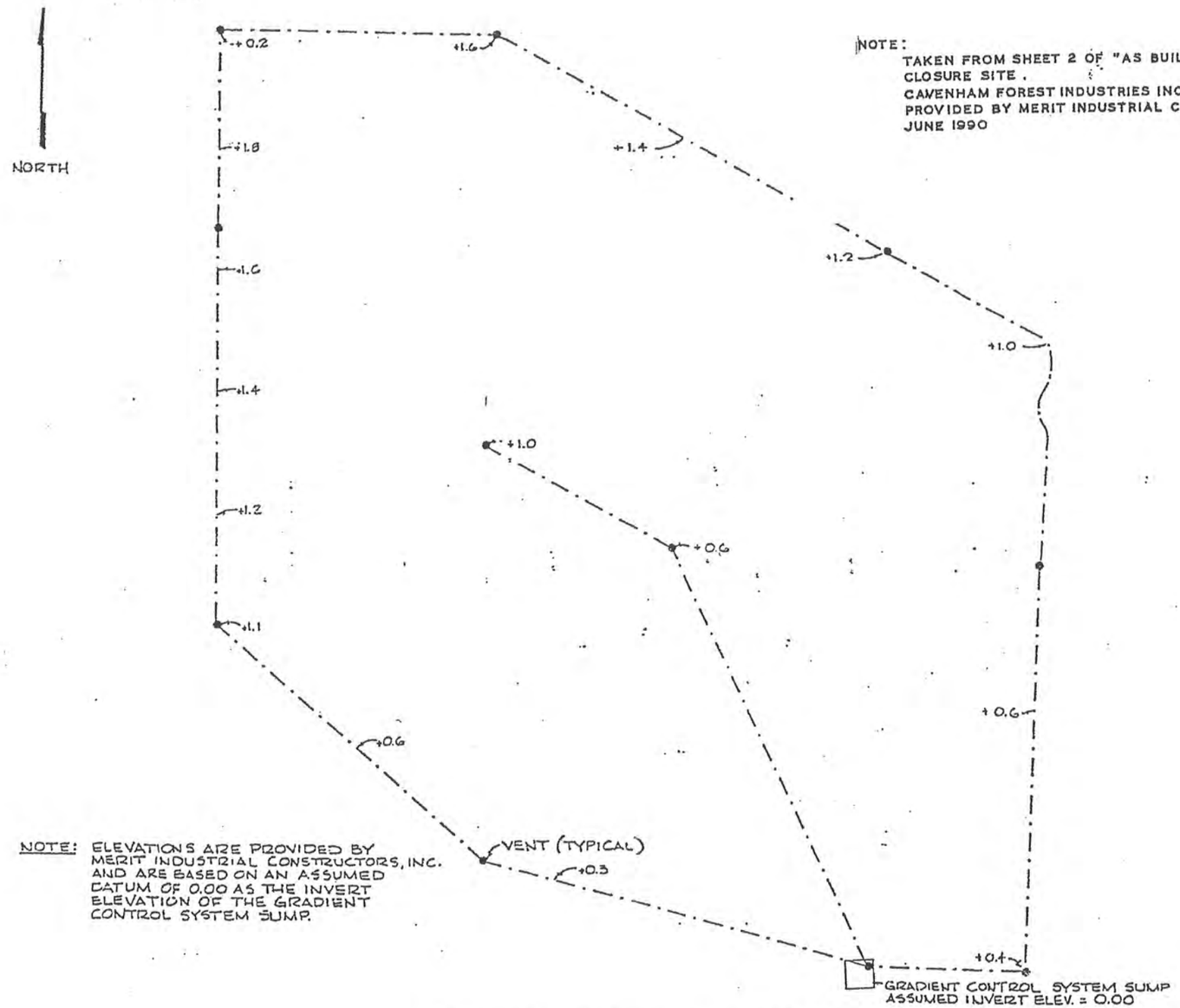
CAVENHAM FOREST INDUSTRIES, LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 09 GRADIENT PLAN

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 9

NOTE:
TAKEN FROM SHEET 2 OF "AS BUILT" SURVEY OF CLOSURE SITE.
CAVENHAM FOREST INDUSTRIES INC., MOBILE FACILITY
PROVIDED BY MERIT INDUSTRIAL CONTRACTORS, INC.
JUNE 1990



NOTE: ELEVATIONS ARE PROVIDED BY MERIT INDUSTRIAL CONSTRUCTORS, INC. AND ARE BASED ON AN ASSUMED DATUM OF 0.00 AS THE INVERT ELEVATION OF THE GRADIENT CONTROL SYSTEM SUMP.

GRADIENT CONTROL SYSTEM

SCALE: 1"=APPROXIMATELY 80'

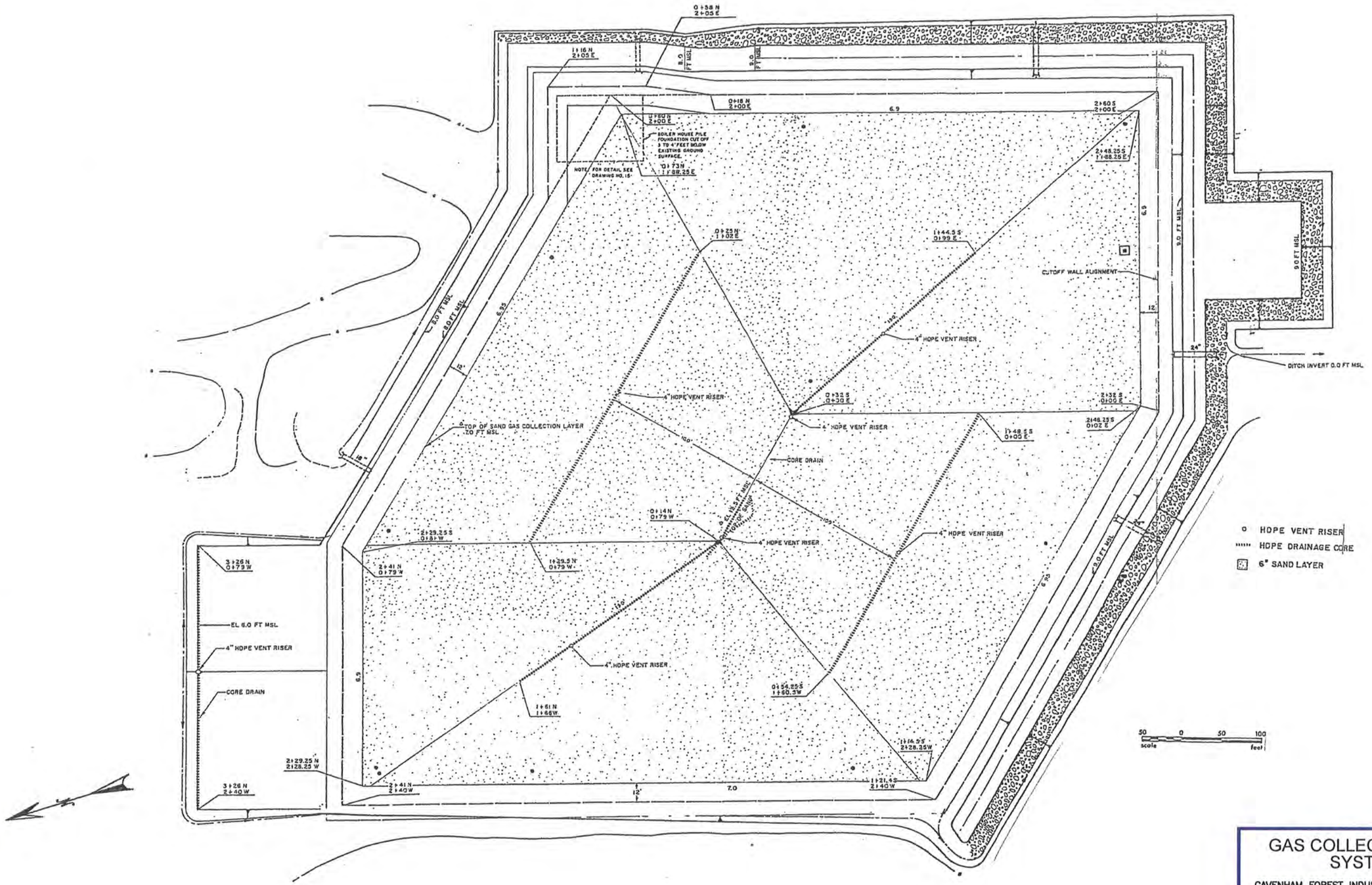
GRADIENT CONTROL SYSTEM "AS-BUILT"

CAVENHAM FOREST INDUSTRIES, LLC – MOBILE, ALABAMA

DATE: 8/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 10 GRADIENT AS BLT

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 10



GAS COLLECTION / VENTING SYSTEM PLAN

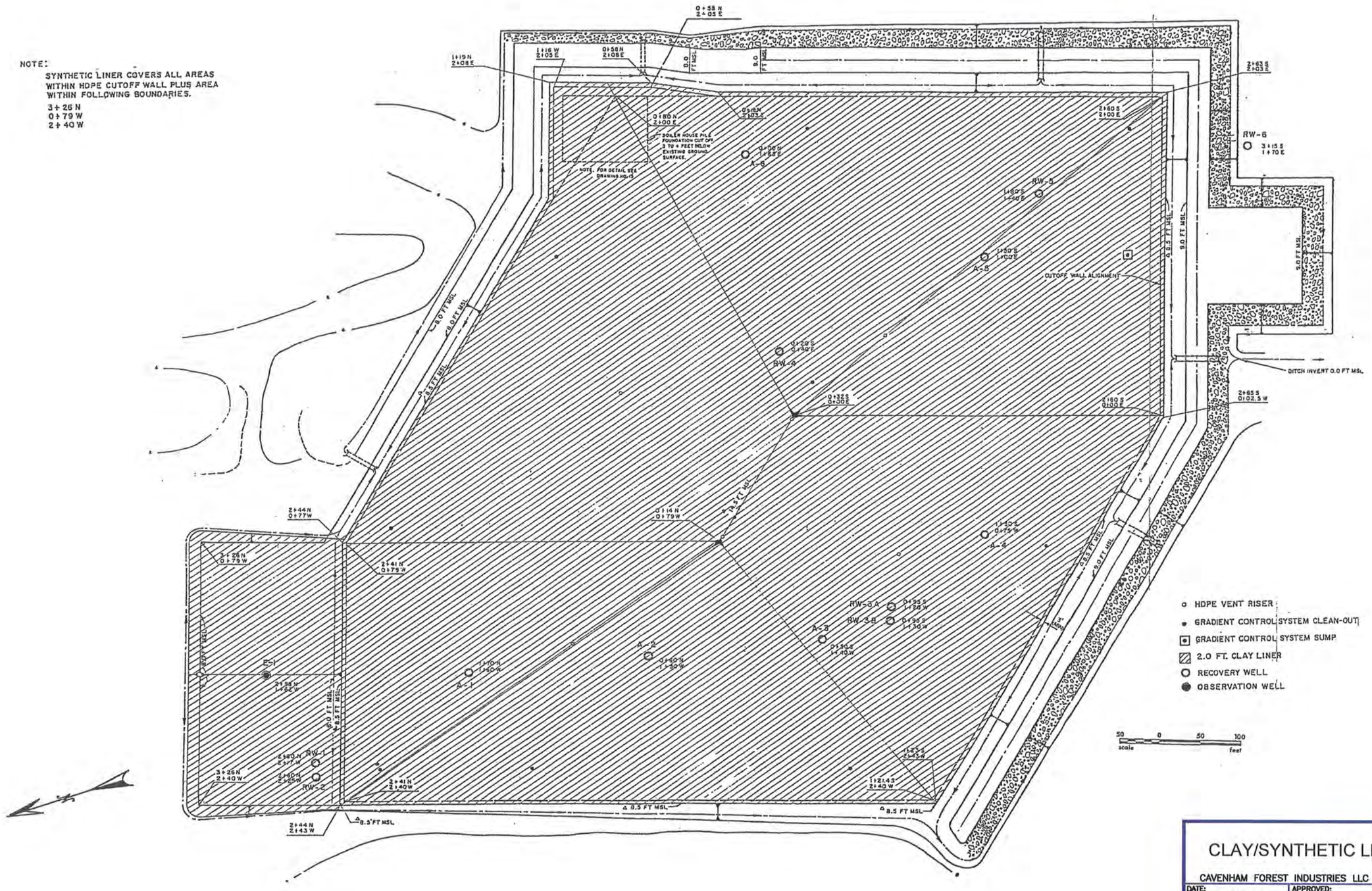
CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: DATE:	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 11 COLLECT_VENTING PLAN

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 11

NOTE:
SYNTHETIC LINER COVERS ALL AREAS WITHIN HDPE CUTOFF WALL PLUS AREA WITHIN FOLLOWING BOUNDARIES.
3+26 N
0+79 W
2+40 W



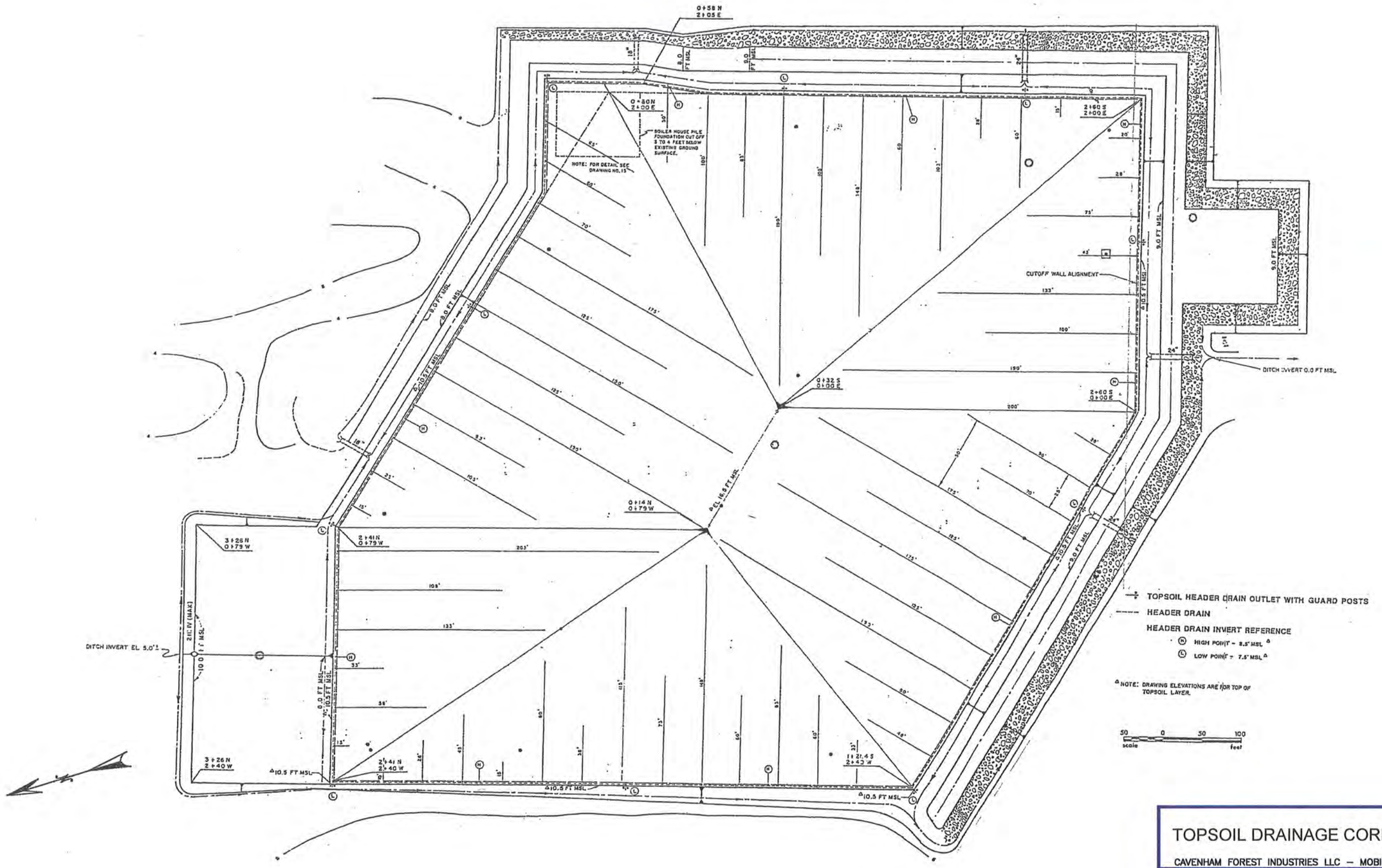
CLAY/SYNTHETIC LINER PLAN

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 12 CLAY_SYN LINER PLAN

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 12



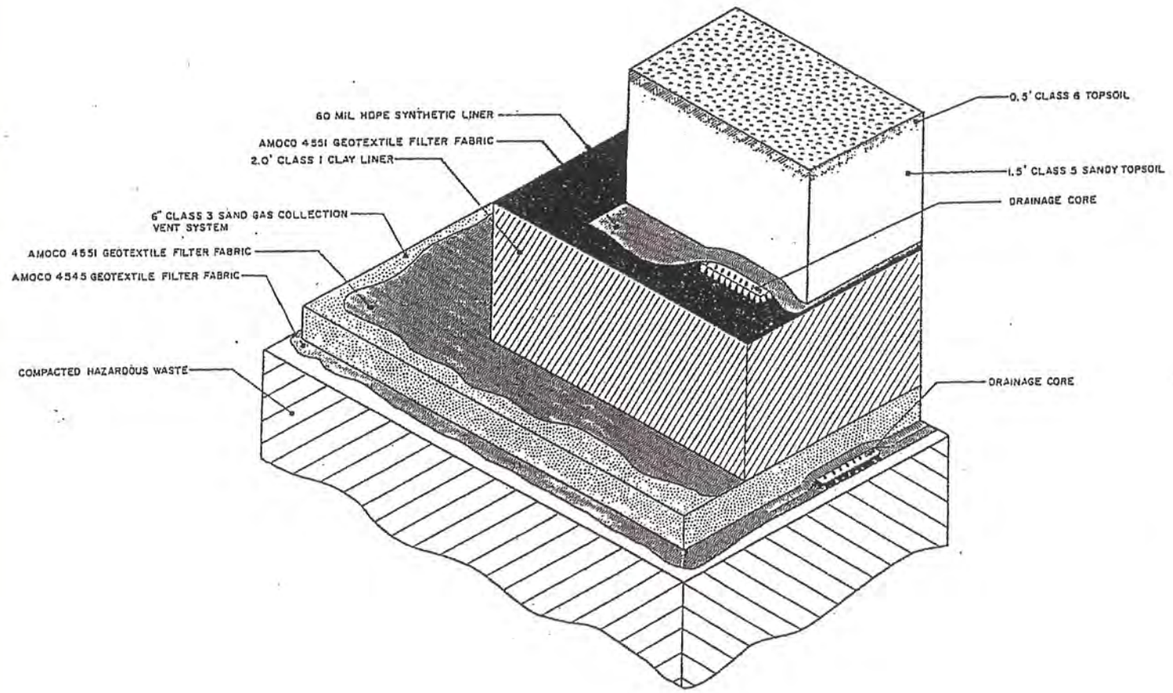
TOPSOIL DRAINAGE CORE PLAN

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

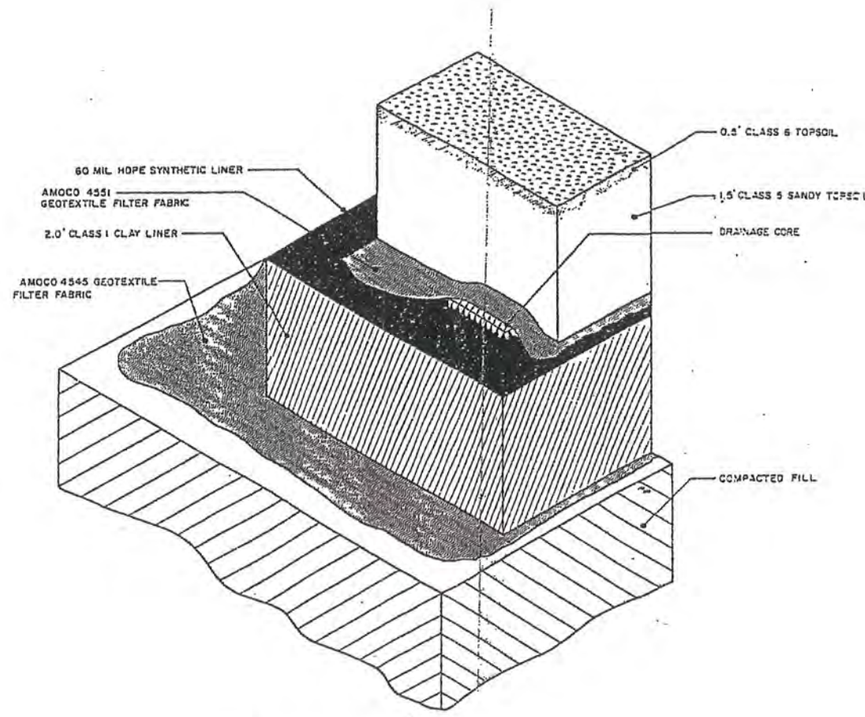
DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 13 DRAIN CORE PLAN

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 13



MAIN COVER SYSTEM



AUXILIARY CAP NORTH OF MAIN CAP

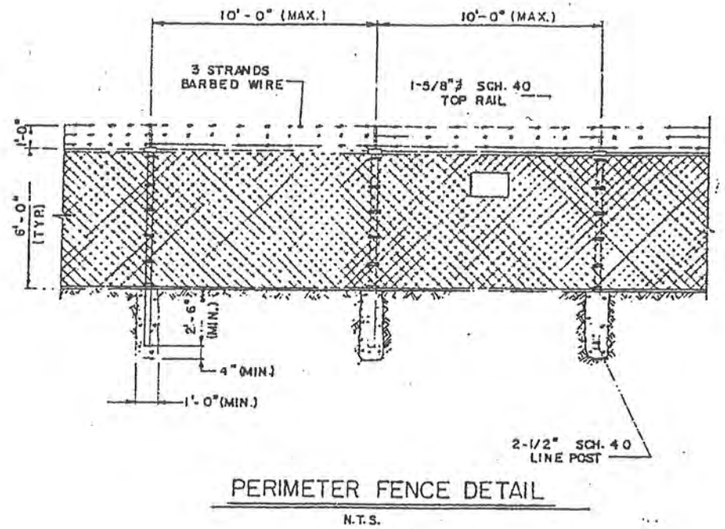
COVER SYSTEM DETAILS

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: N.T.S.		CAD NO. Fig 14 COVER DETAILS

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

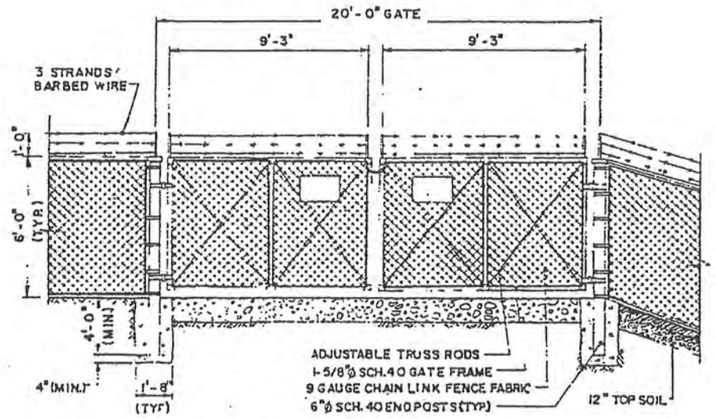
FIGURE 14



PERIMETER FENCE DETAIL

N.T.S.

SIGN DETAIL



ENTRANCE GATE DETAIL

N.T.S.

SECURITY FENCE DETAILS

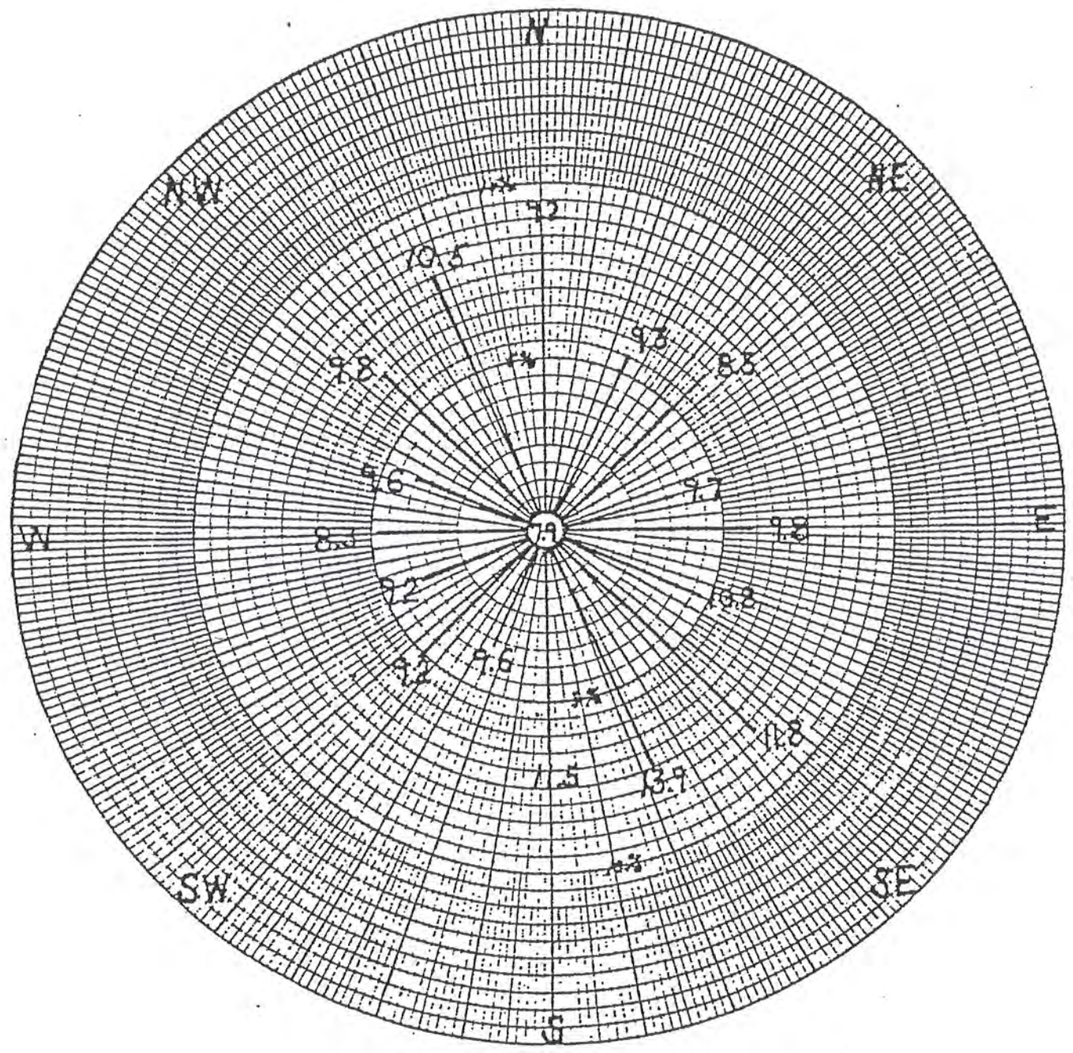
CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 5/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 15 FENCE DETAILS

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 15

ANNUAL



% WIND DIRECTION 4 KTS & OVER
CALM & 3 KTS OR LESS IN CENTER

LEGEND

2 CONCENTRIC CIRCLES = 1%
FIGURES = MEAN WIND SPEED

REFERENCE:
METEROLOGICAL DATA FROM
BROOKLEY AIR FORCE BASE
ENDING IN 1958.
PROVIDED BY U.S. CORPS OF
ENGINEERS.

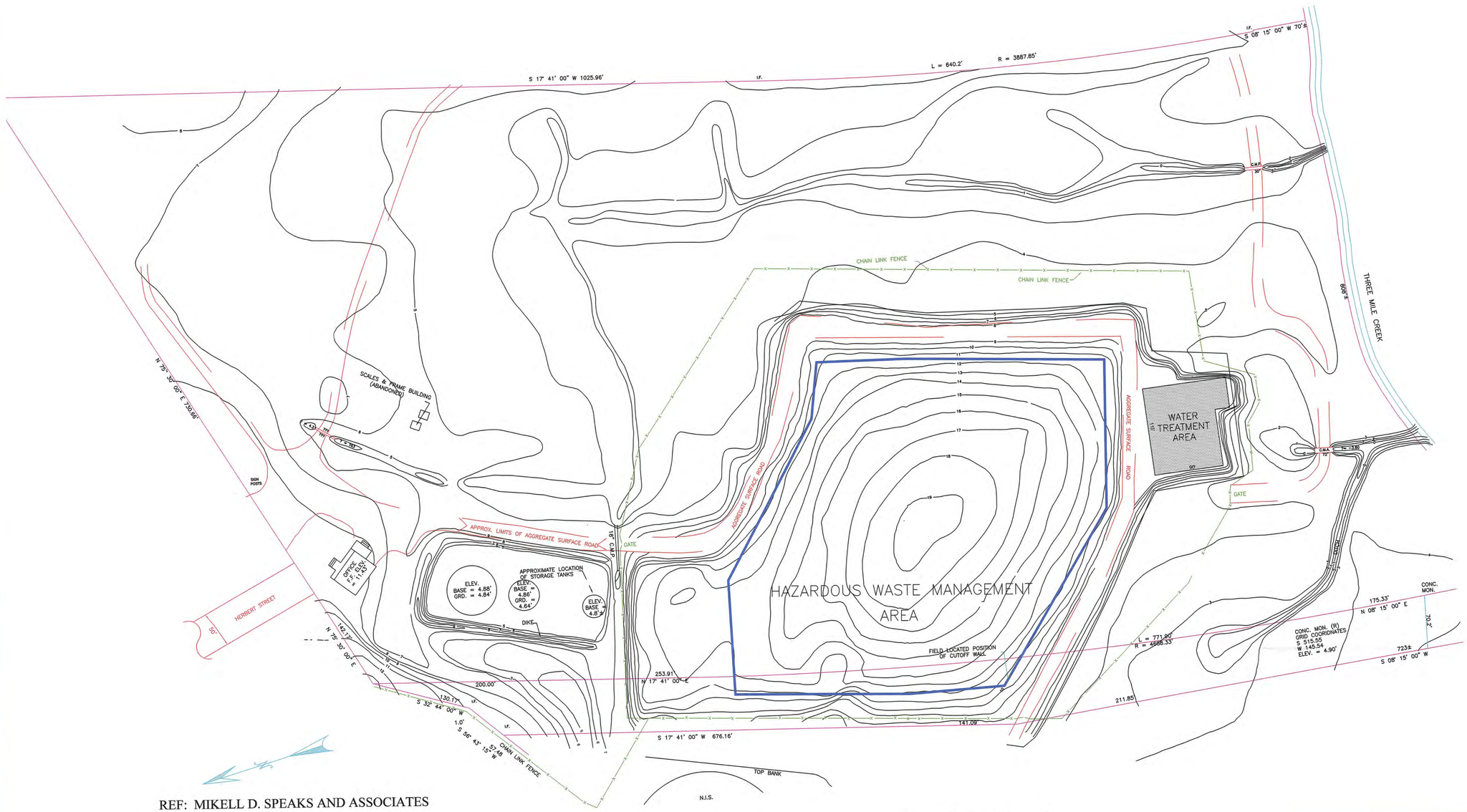
WIND ROSE

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: DATE:	DRAWN BY: KRK
SCALE: N.T.S.		CAD NO. Fig 16 WIND ROSE

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 16



REF: MIKELL D. SPEAKS AND ASSOCIATES
TOPOGRAPHIC SURVEY
JULY 6, 1990

NOTE: ELEVEATION IN FEET

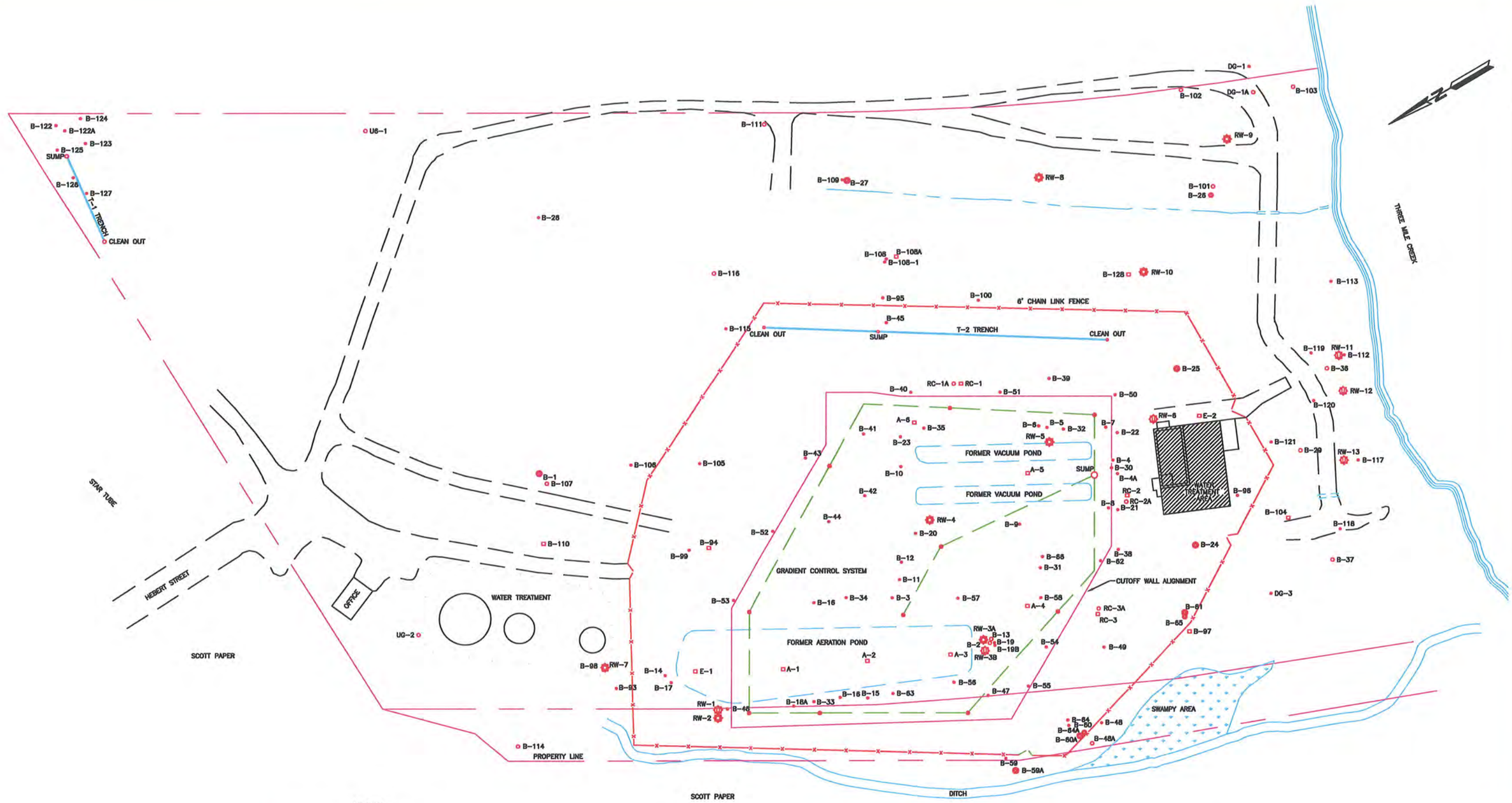
FACILITY CONTOUR MAP

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 17 FAC CONT MAP

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 17



LEGEND

- LOWER AQUIFER MONITOR WELL (UPPER PART)
- SOIL BORING
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- RW–RECOVERY WELL (UPPER AQUIFER)
- RW–RECOVERY WELL (LOWER AQUIFER)
- UPPER AQUIFER MONITOR WELL
- CLEAN OUT

SCALE 1 INCH = 60 FEET

15 30 60

0 15 30 60 120

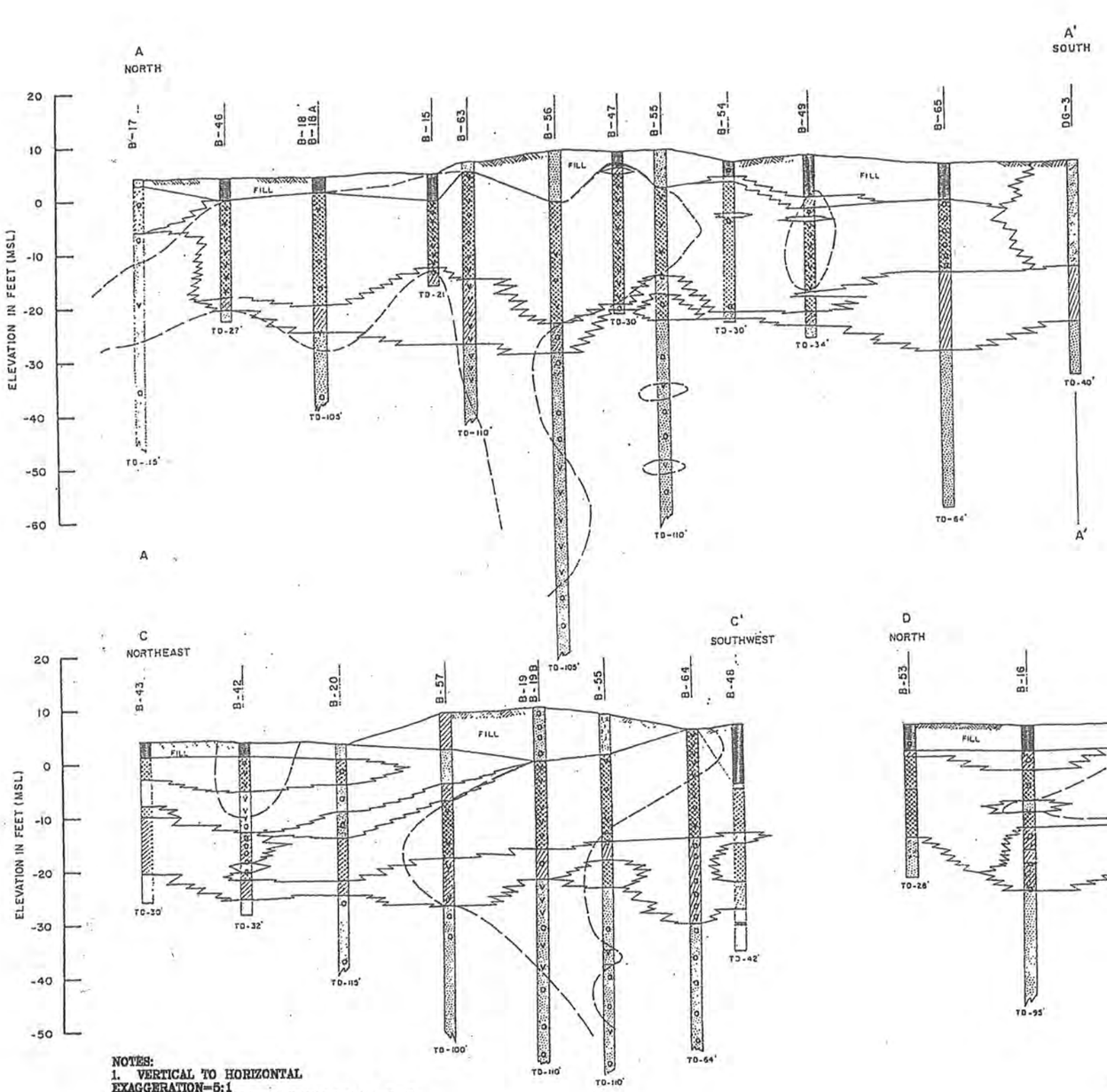
BOREHOLE LOCATIONS

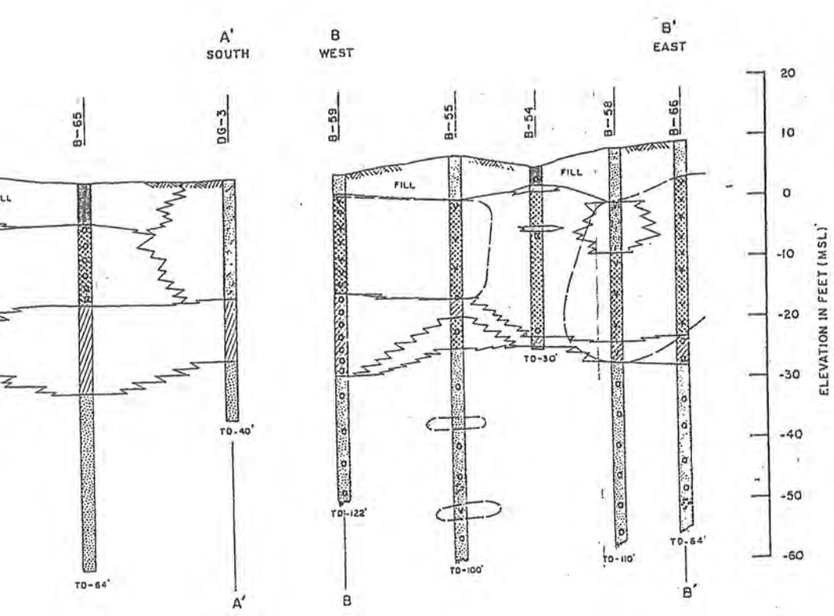
CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

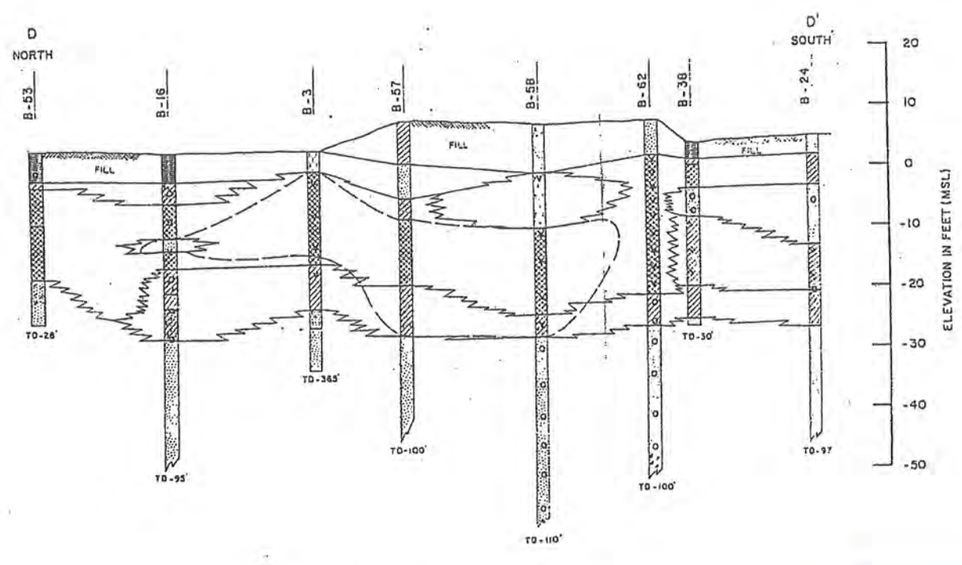
DATE: 6/18/01	APPROVED: BY: _____ DATE: _____	DRAWN BY: K.R.K.
SCALE: 1" = 60'		CAD NO. Fig 18 BORE LOC

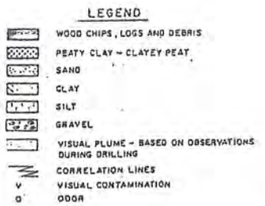
ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 18









NOTES:
1. VERTICAL TO HORIZONTAL EXAGGERATION=5:1
2. CONDITIONS BETWEEN BORINGS MAY VARY FROM THOSE INFERRED AND DEPICTED.
3. PROFILE LOCATIONS ARE INDICATED ON FIGURE 17.
4. CONTAMINANT OBSERVATIONS FROM BORING LOGS.

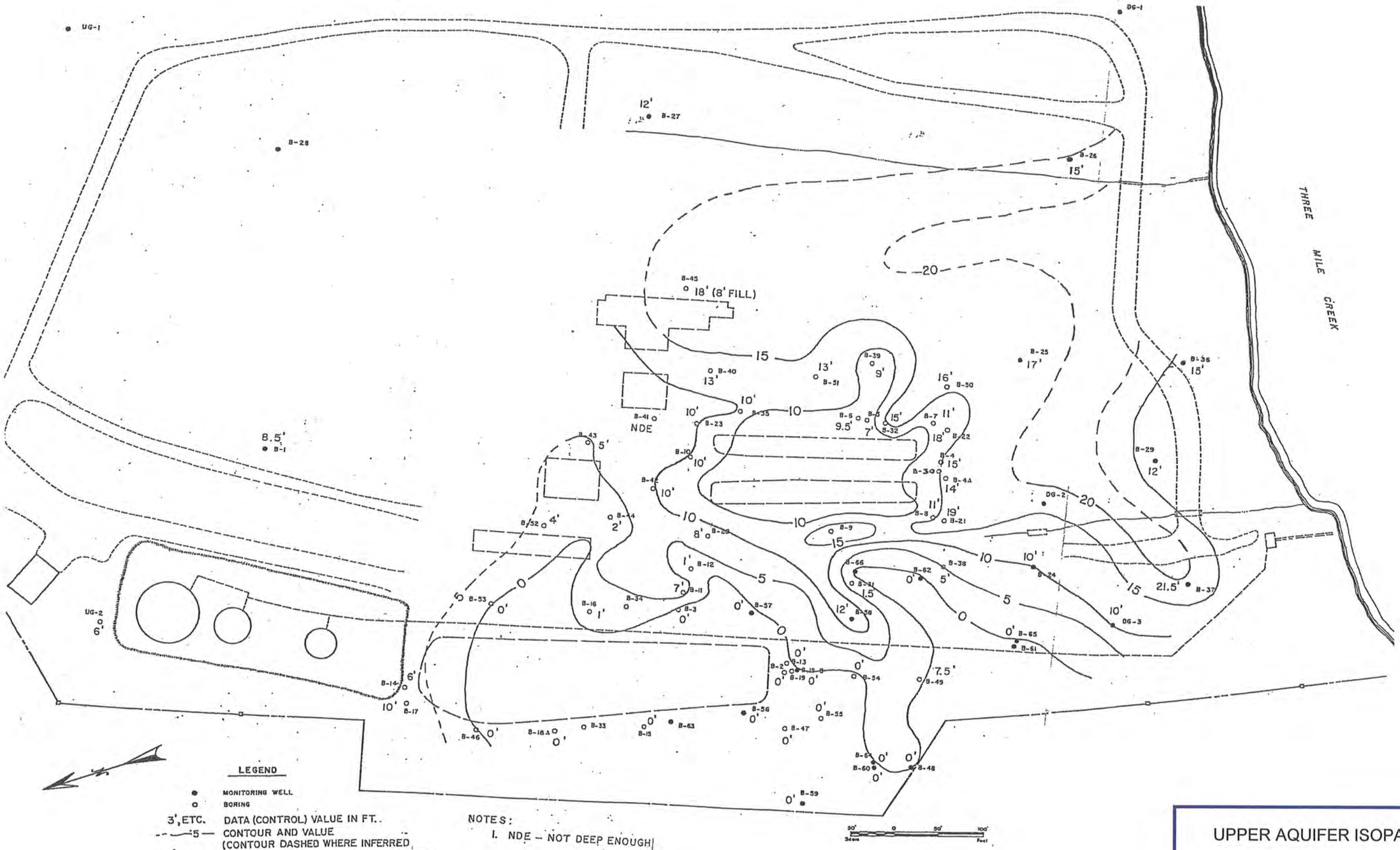
GEOLOGIC PROFILES

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 8/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 19 GEO PROFILES

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 19



LEGEND

- ● MONITORING WELL
- ○ BORING
- 3', ETC. DATA (CONTROL) VALUE IN FT.
- --5-- CONTOUR AND VALUE (CONTOUR DASHED WHERE INFERRED)

NOTES:

1. NDE – NOT DEEP ENOUGH

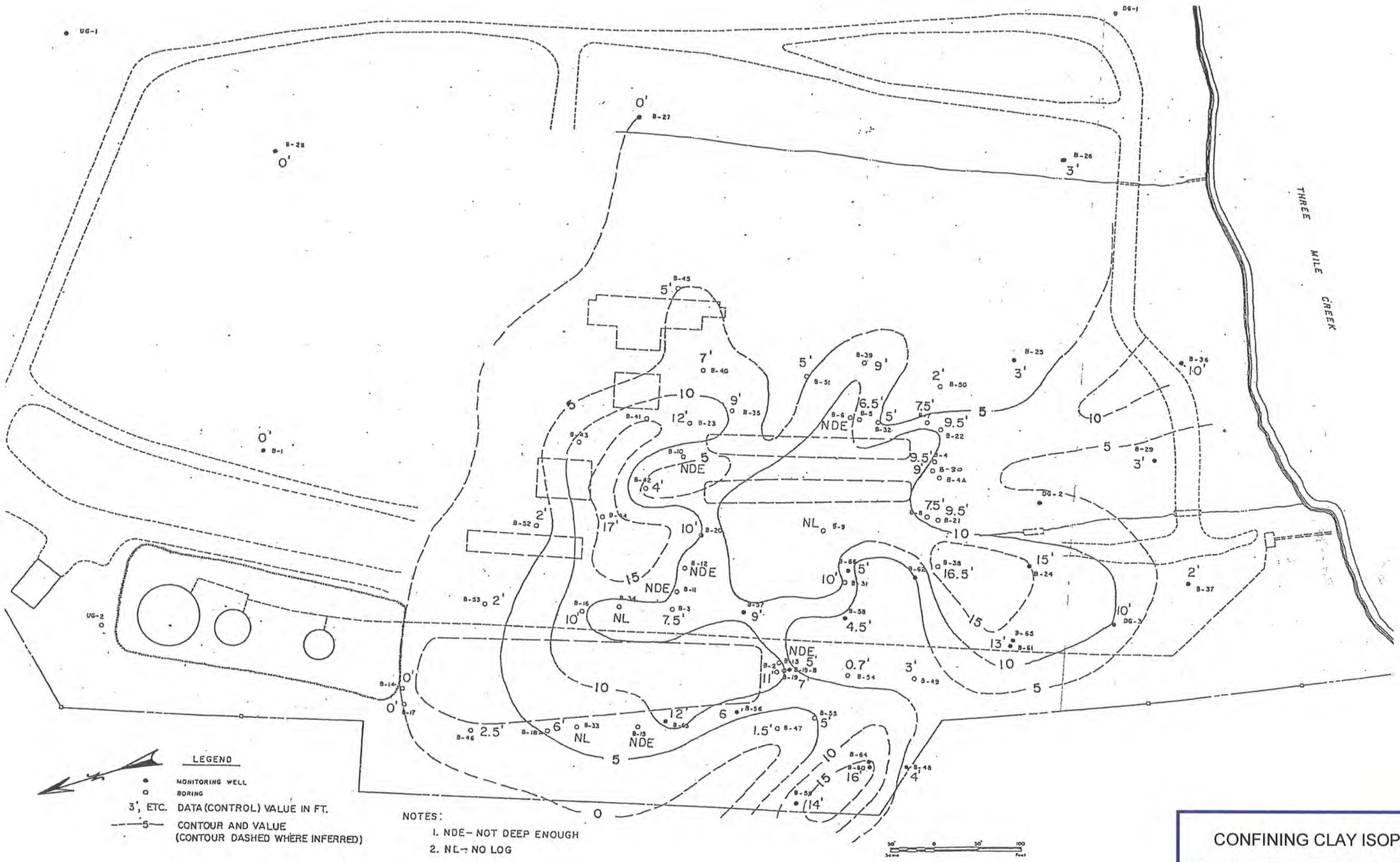
UPPER AQUIFER ISOPACH

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 20 UP AQ ISO

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 20



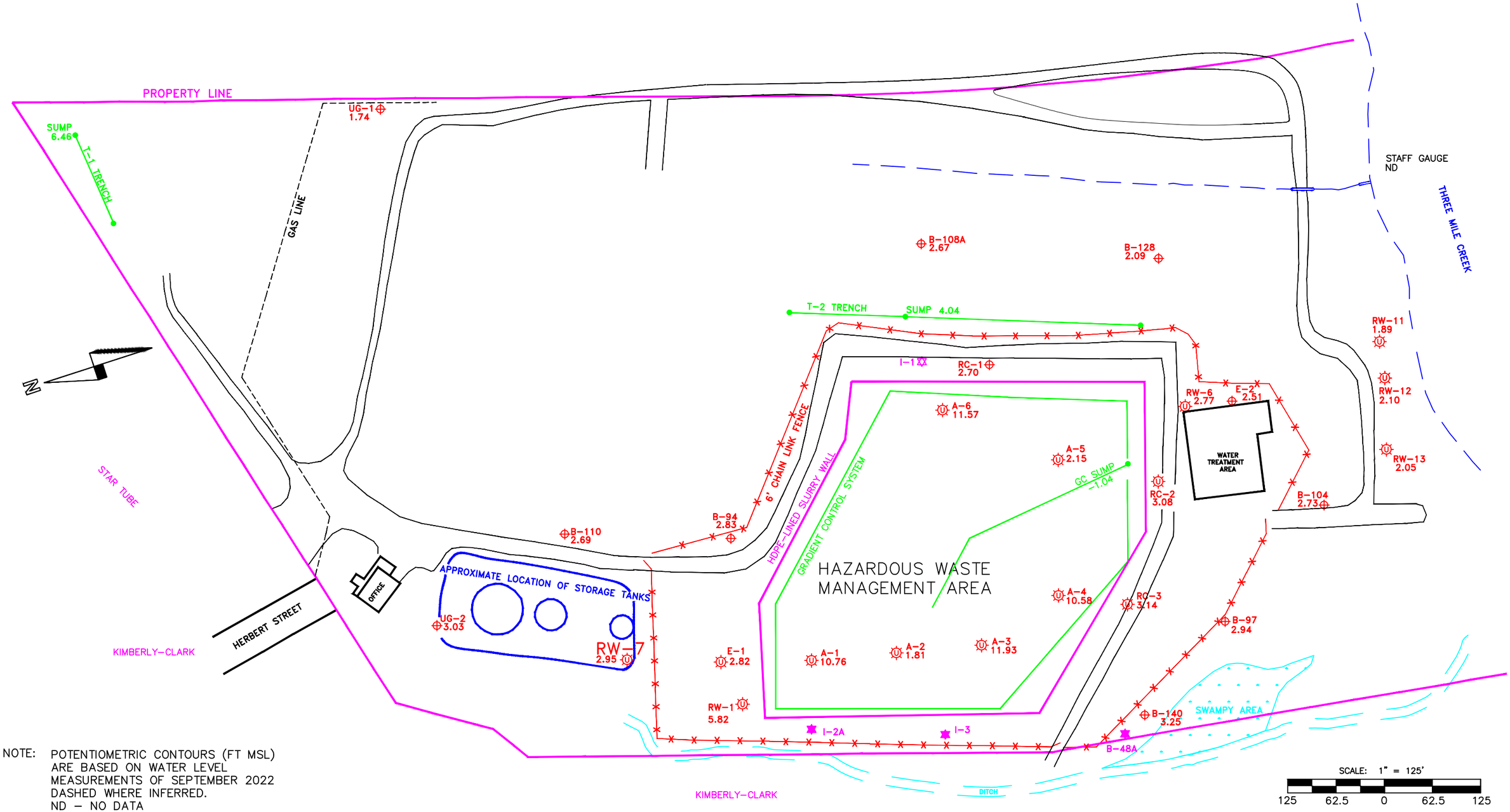
CONFINING CLAY ISOPACH

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 6/18/01	APPROVED: BY: ____ DATE: ____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig 21 CLAY ISO

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 21



NOTE: POTENTIOMETRIC CONTOURS (FT MSL) ARE BASED ON WATER LEVEL MEASUREMENTS OF SEPTEMBER 2022 DASHED WHERE INFERRED.
ND – NO DATA

LEGEND

- △ LOWER AQUIFER MONITOR WELL (UPPER PART)
- □ LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- ▽ LOWER AQUIFER MONITOR WELL (LOWER PART)
- ⊕ UPPER AQUIFER MONITOR WELL
- ✡ UPPER AQUIFER INJECTION WELL
- ⊖ LOWER AQUIFER RECOVERY WELL
- ✱ LOWER AQUIFER INJECTION WELL
- ⊖ UPPER AQUIFER RECOVERY WELL

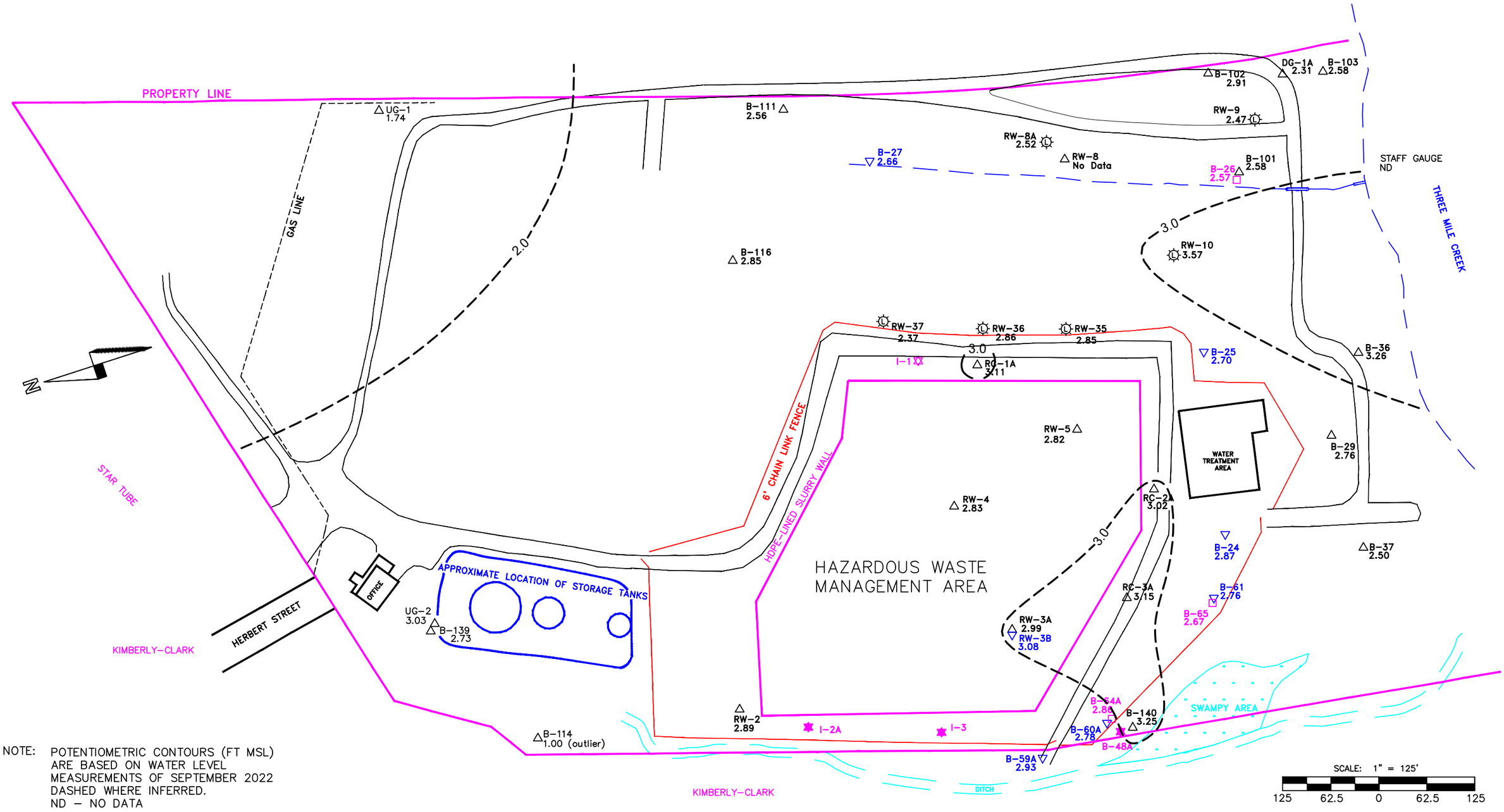
UPPER AQUIFER WATER TABLE CONTOURS

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____	DRAWN BY: LMM
SCALE: 1" = 125'	DATE: _____	CAD NO. 22 23_MobPot-0922

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 22



NOTE: POTENTIOMETRIC CONTOURS (FT MSL) ARE BASED ON WATER LEVEL MEASUREMENTS OF SEPTEMBER 2022 DASHED WHERE INFERRED.
ND – NO DATA

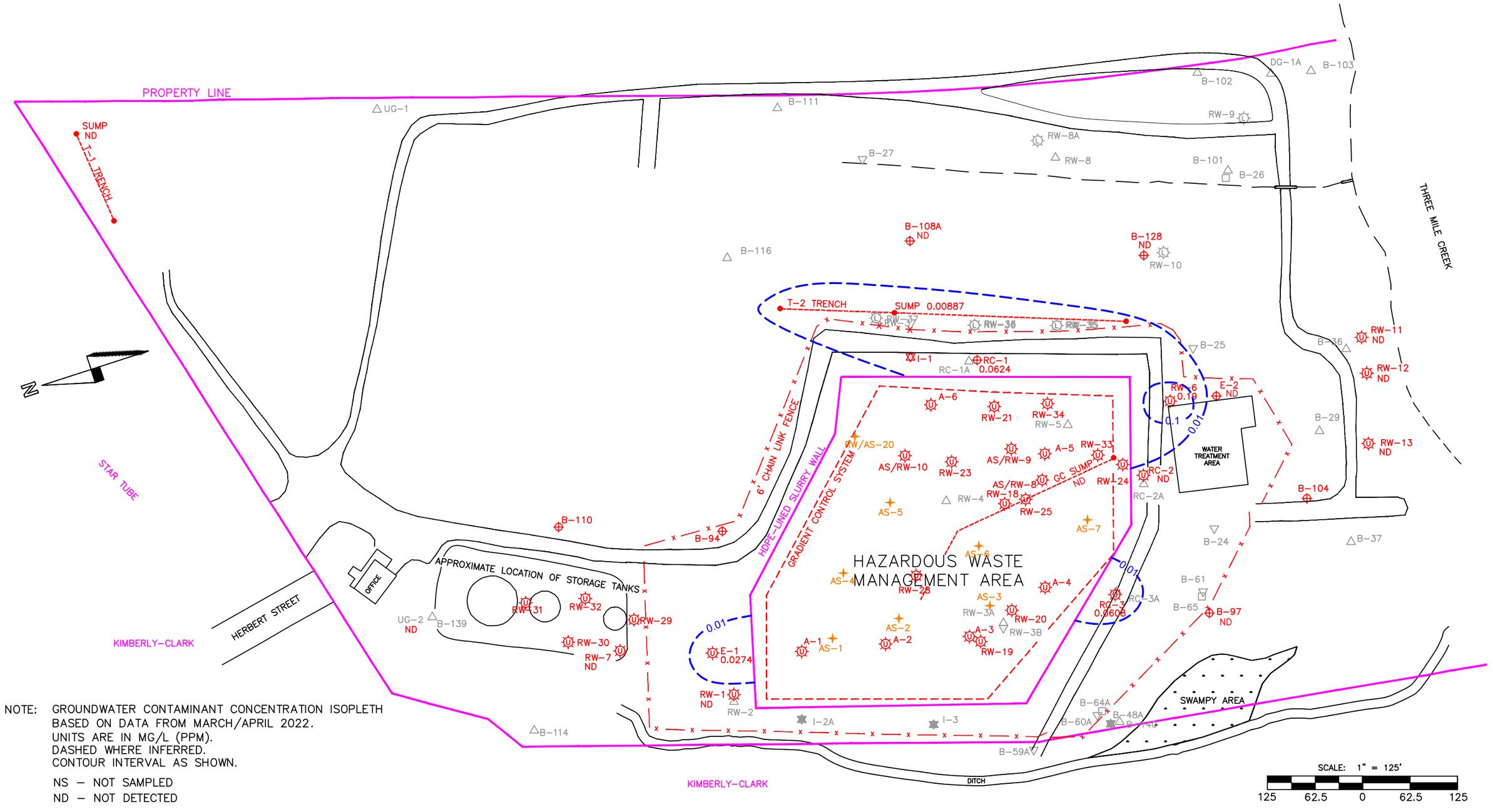
LEGEND

- △ LOWER AQUIFER MONITOR WELL (UPPER PART)
- □ LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- ▽ LOWER AQUIFER MONITOR WELL (LOWER PART)
- ⊕ UPPER AQUIFER MONITOR WELL
- ✡ UPPER AQUIFER INJECTION WELL
- ☼ LOWER AQUIFER RECOVERY WELL
- ✸ LOWER AQUIFER INJECTION WELL
- ⊛ UPPER AQUIFER RECOVERY WELL

LOWER AQUIFER POTENTIOMETRIC CONTOURS

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____	DRAWN BY: LMM	
SCALE: 1" = 125'	DATE: _____	CAD NO. 22 23_MobPot-0922	
ENVIRONMENTAL MANAGEMENT SERVICES, INC.			FIGURE 23



NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH
BASED ON DATA FROM MARCH/APRIL 2022.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.

NS – NOT SAMPLED
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

UPPER AQUIFER - TOTAL VOLATILE

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____	DRAWN BY: LMM
SCALE: 1" = 125'	DATE: _____	CAD NO. 24_UpperAquTvoa_0322

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 24

PROPERTY LINE

SUMP
0.00523

T-1 TRENCH

0.001

UG-1

B-111

B-102

DG-1A

B-103

RW-9

RW-8A

RW-8

B-27

B-101

B-26

THREE MILE CREEK

B-108A
ND

B-116

B-128
ND

RW-10

T-2 TRENCH

SUMP ND

RW-37

RW-36

RW-35

0.1

B-25

I-1

RC-1A

RC-1
0.7528

RW-11
ND

B-36

RW-12
ND

E-2
ND

RW-6
0.012

A-6

RW-5

B-29

A-5

WATER TREATMENT AREA

RW-13
ND

GC SUMP
0.03474

RC-2
ND

RC-2A

B-104

RW-4

B-24

B-37

HAZARDOUS WASTE MANAGEMENT AREA

A-4

RC-3A

RC-3
0.2016

B-61

B-65

B-97
ND

RW-3A

A-3

RW-3B

A-1

A-2

B-64A

B-48A

B-140

B-60A

SWAMPY AREA

B-59A

I-2A

I-3

B-114

RW-1
ND

RW-2

E-1
ND

RW-7
ND

B-139

UG-2
ND

B-110

B-94

APPROXIMATE LOCATION OF STORAGE TANKS

OFFICE

HERBERT STREET

KIMBERLY-CLARK

KIMBERLY-CLARK

DITCH

STAR TUBE

6' CHAIN LINK FENCE

HDPE-LINED SLURRY WALL

GRADIENT CONTROL SYSTEM

N

SCALE: 1" = 125'

125 62.5 0 62.5 125

NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH BASED ON DATA FROM MARCH/APRIL 2022.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.

NS – NOT SAMPLED
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

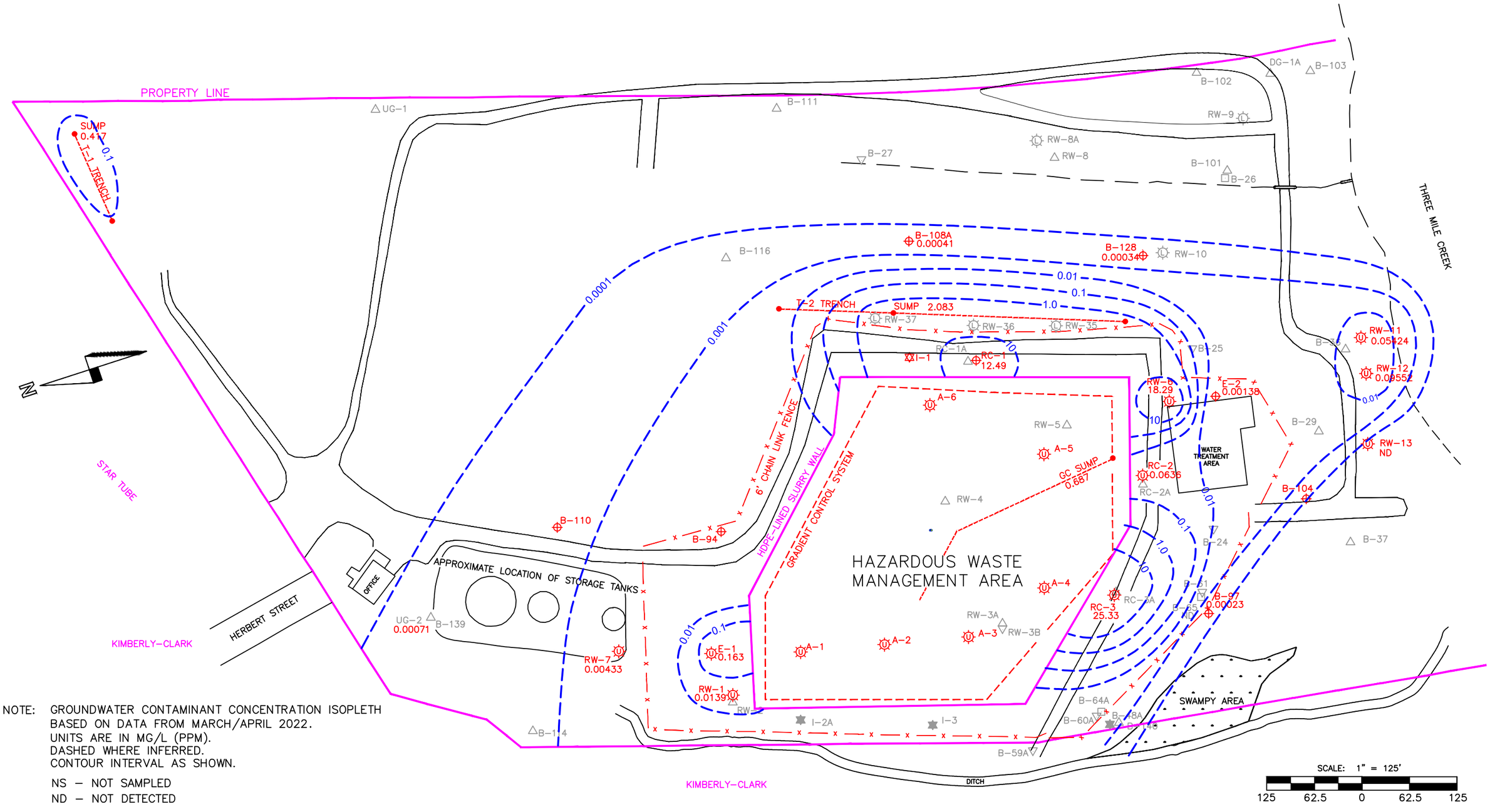
UPPER AQUIFER - TOTAL PHENOL

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: 1" = 125'		CAD NO. 25_UpperAquTphen_0322

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 25



NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH
BASED ON DATA FROM MARCH/APRIL 2022.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.

NS – NOT SAMPLED
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

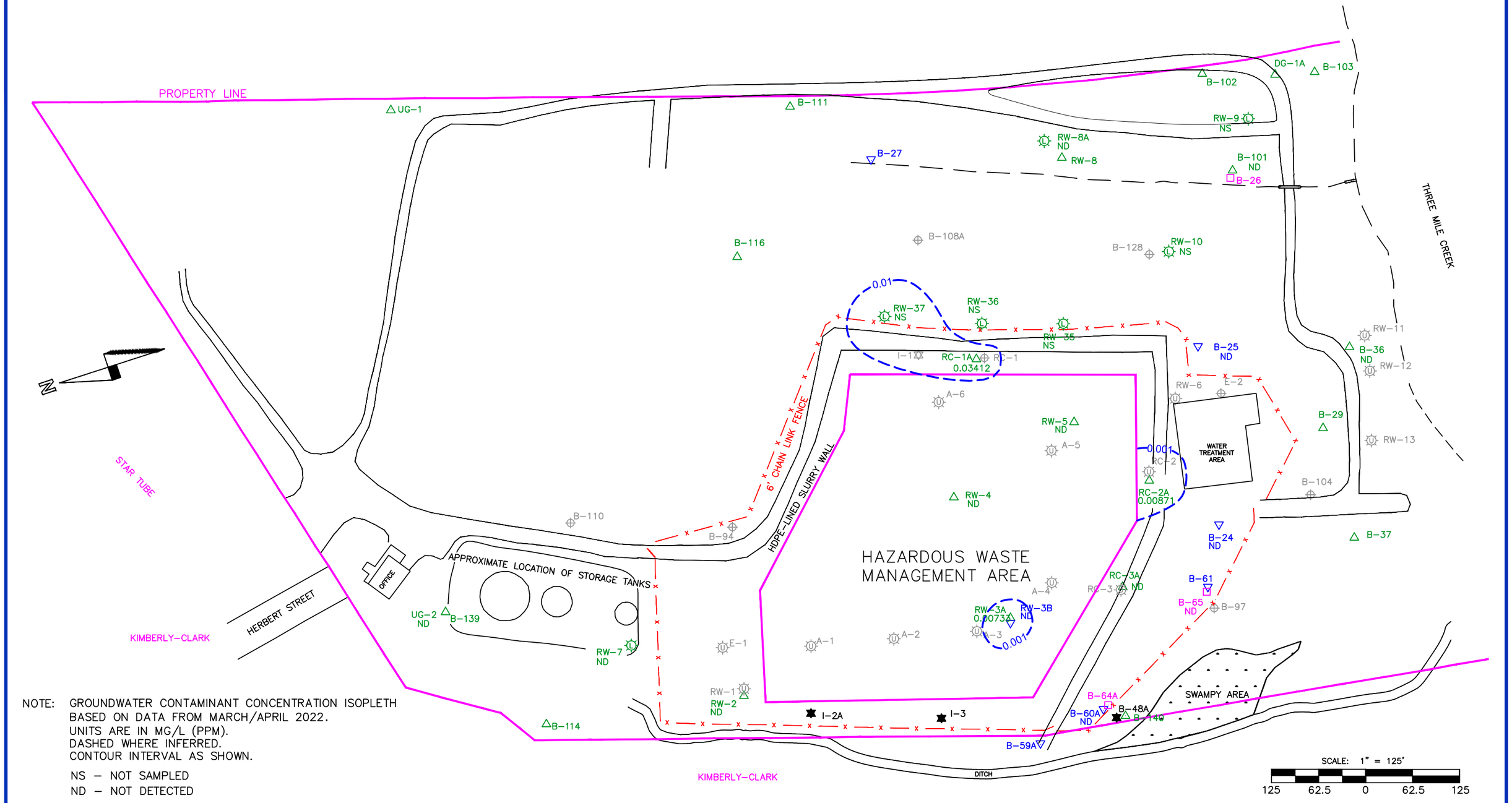
UPPER AQUIFER - TOTAL BASE/NEUTRAL

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: 1" = 125'		CAD NO. 26_UpperAquTbna_0321

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 26



NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH
BASED ON DATA FROM MARCH/APRIL 2022.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.

NS – NOT SAMPLED
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

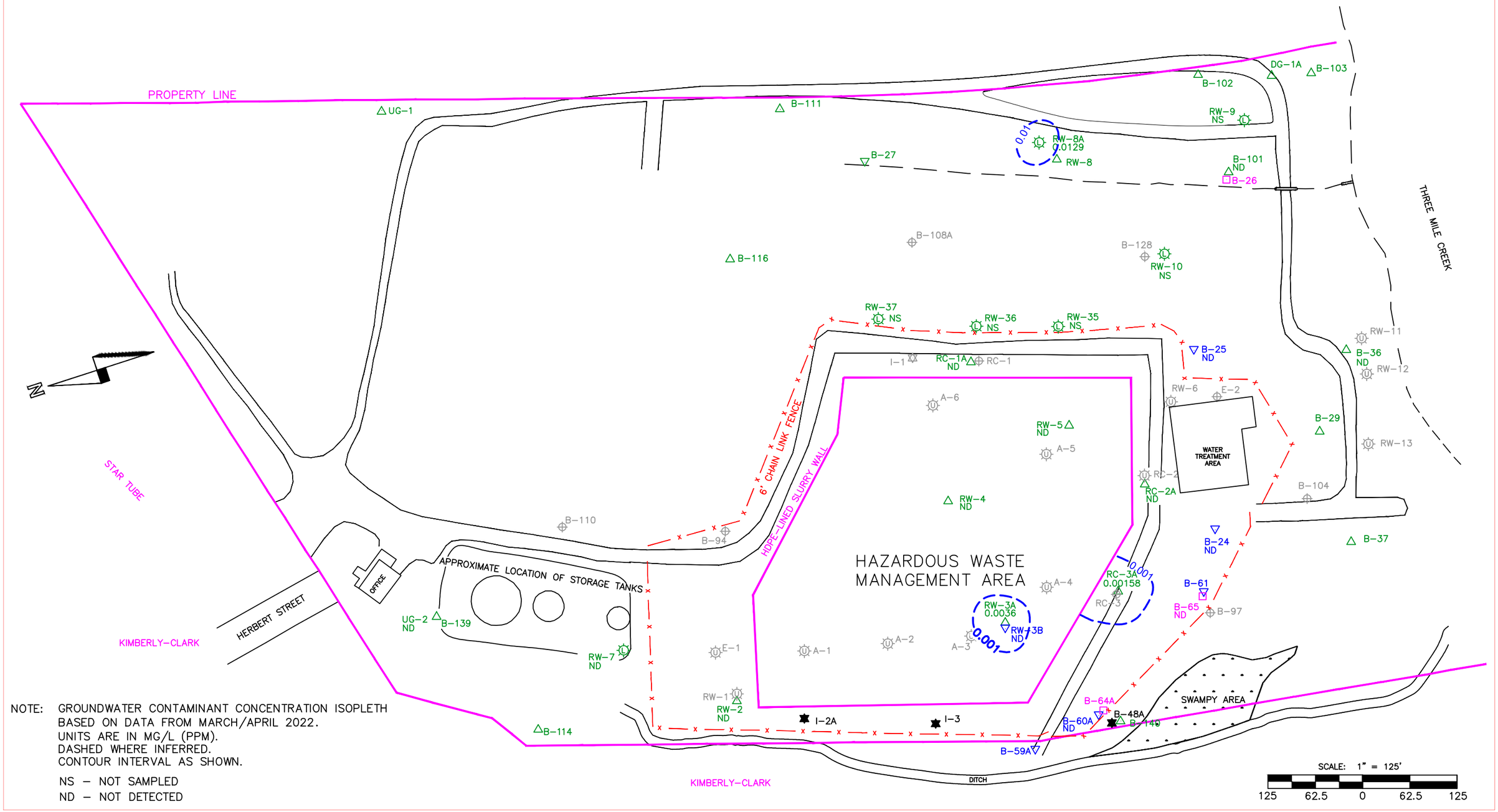
LOWER AQUIFER - TOTAL VOLATILE

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____	DRAWN BY: LMM
SCALE: 1" = 125'	DATE: _____	CAD NO. 27_LowerAquTvoa_0322

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 27



NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH
BASED ON DATA FROM MARCH/APRIL 2022.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.

NS – NOT SAMPLED
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

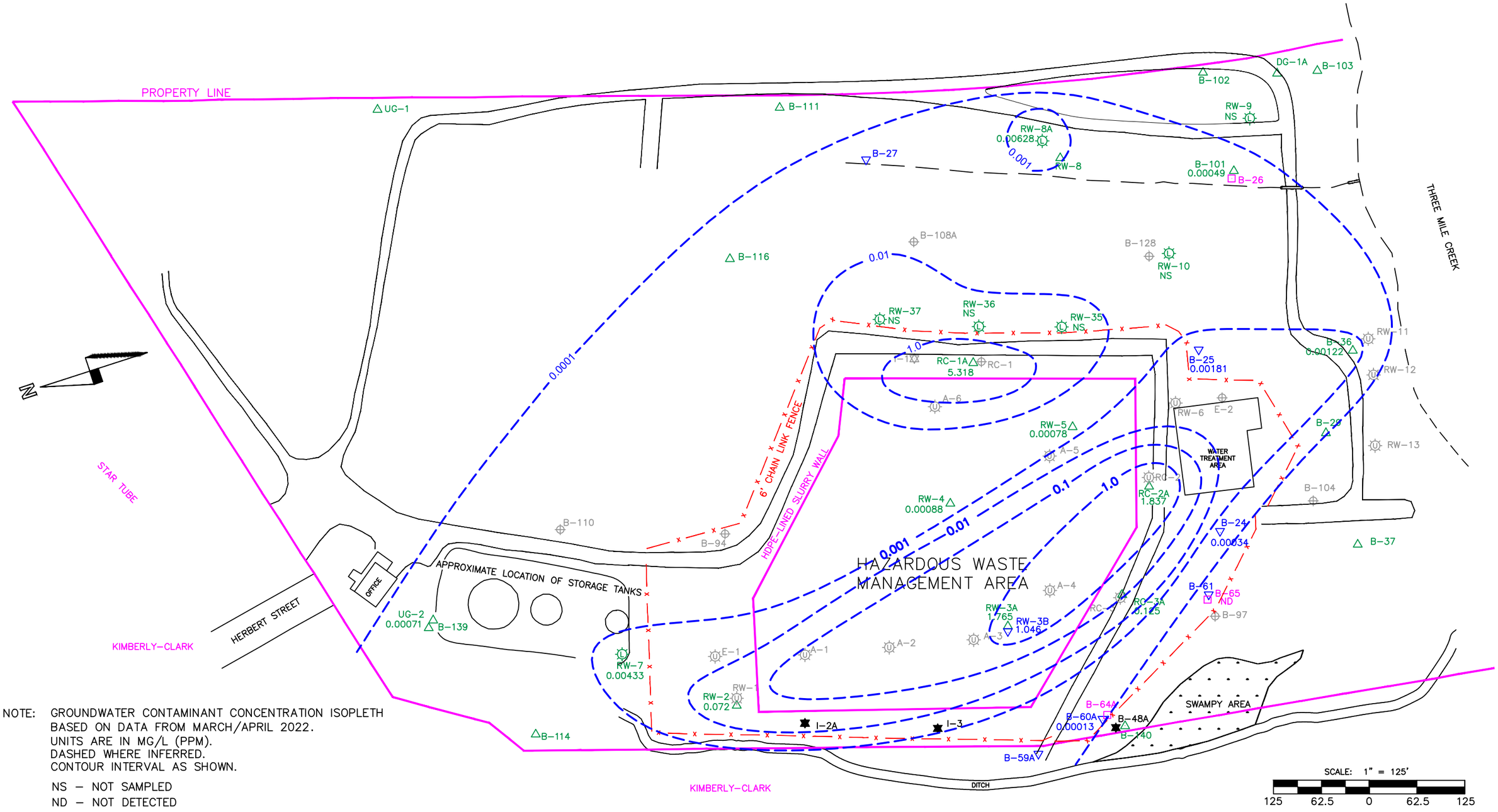
LOWER AQUIFER - TOTAL PHENOL

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____	DRAWN BY: LMM
SCALE: 1" = 125'	DATE: _____	CAD NO. 28_LowerAquTphen_0322

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 28



NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH
BASED ON DATA FROM MARCH/APRIL 2022.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.

NS – NOT SAMPLED
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

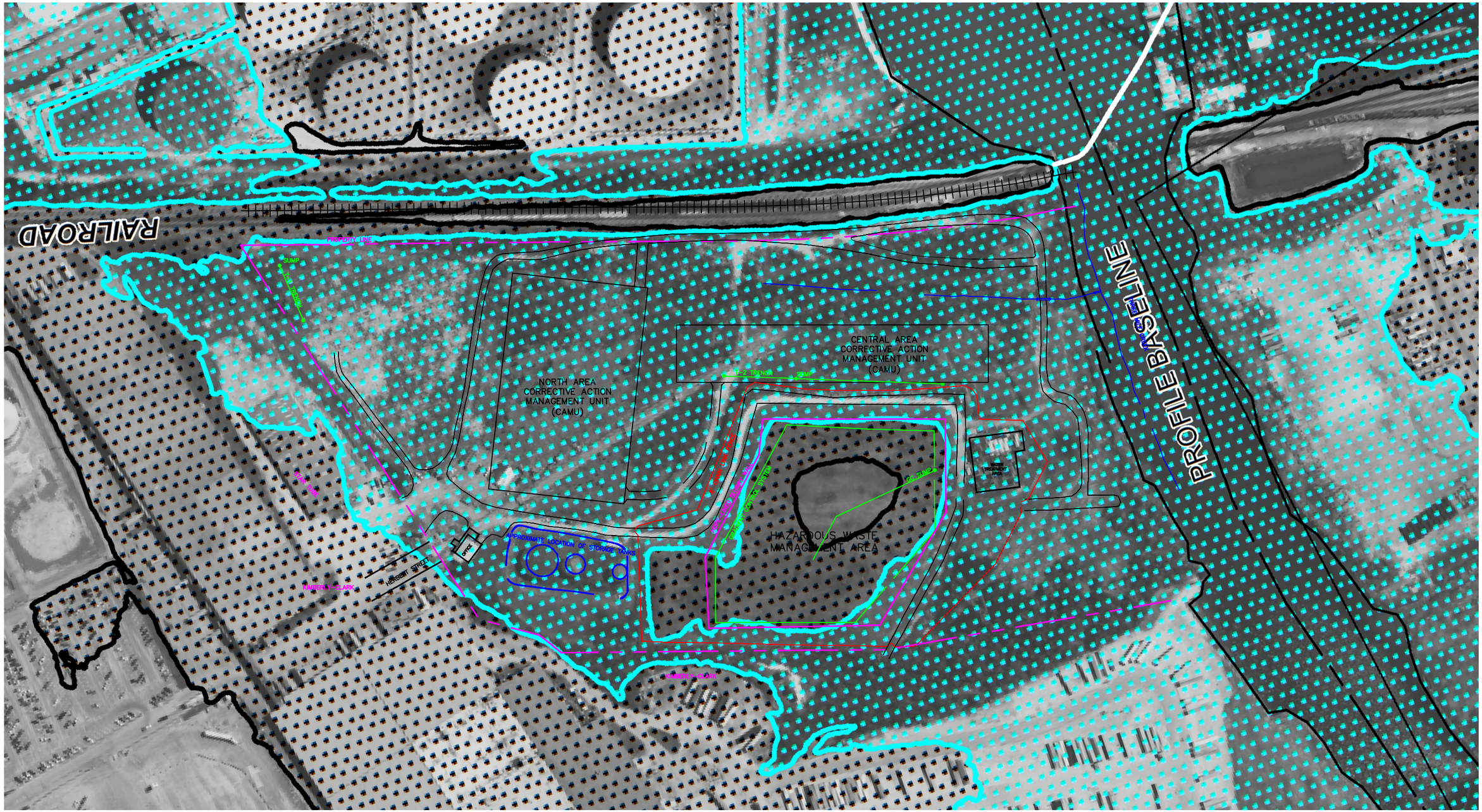
LOWER AQUIFER - TOTAL BASE/NEUTRAL

CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: 1" = 125'		CAD NO. 29_LowerAquTbna_0322

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 29



LEGEND

- 500–YEAR SPECIAL FLOOD HAZARD
- 100–YEAR SPECIAL FLOOD HAZARD ZONE AE (EL 12 NGVD 1929)
- AREA OUTSIDE 500–YEAR FLOOD PLAIN

0 100 200
1"=200'

N

REFRENCE: FEDERAL EMERGENCY MANAGMENT AGENCY
MOBILE COUNTY, ALABAMA
MAP NUMBER: 01097C0556 J

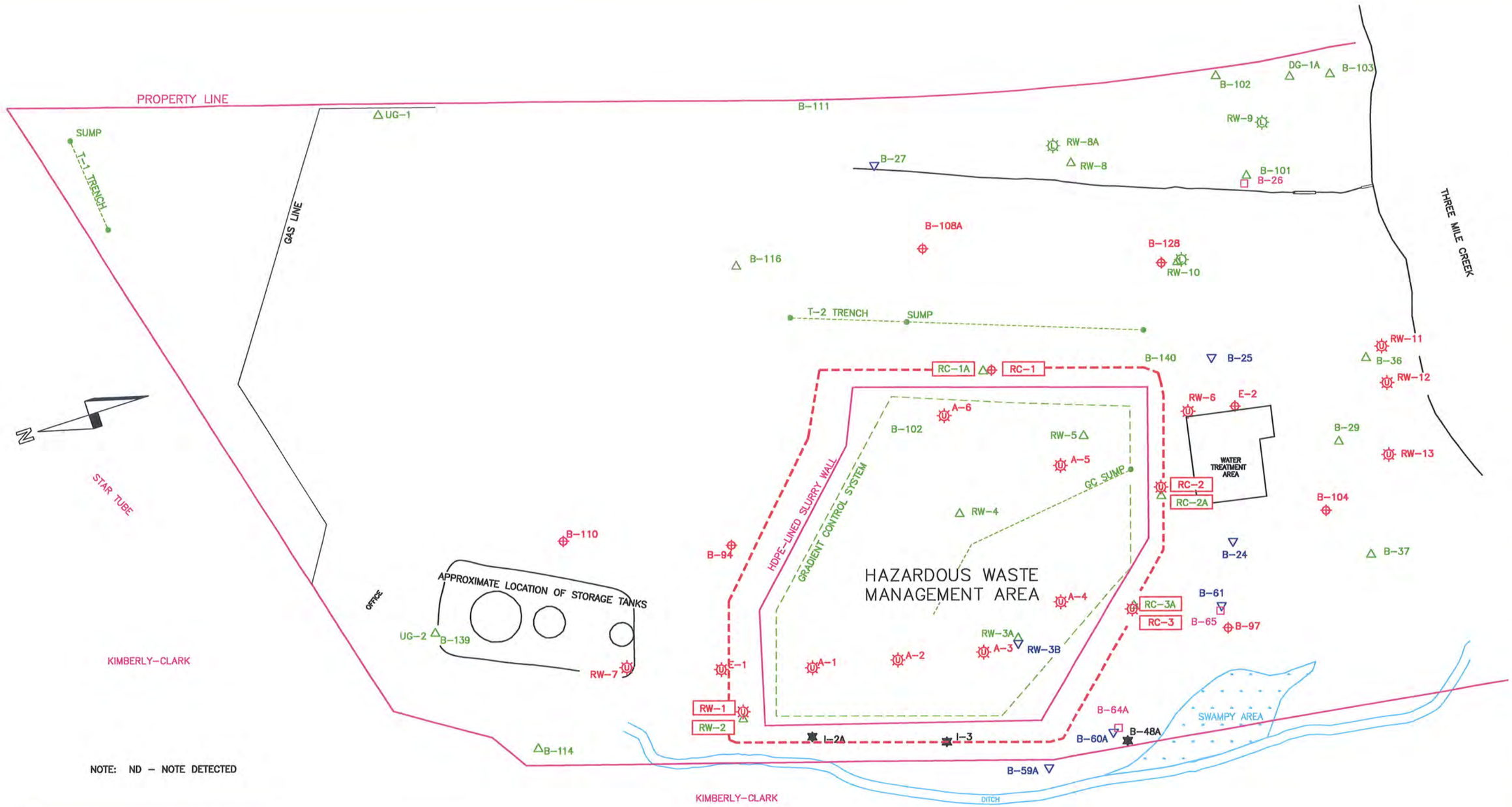
100 YEAR FLOOP MAP

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 8/24/2023	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: 1" = 200'		CAD NO. Fig 30 100 YEAR FLOOD

H:\Marketing\Logo – Leaf\logocon.BMP

FIGURE 30



NOTE: ND – NOTE DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

SCALE: 1" = 125'

125 62.5 0 62.5 125

POINT OF COMPLIANCE BOUNDARY

RW-2 POINT OF COMPLIANCE WELL LOCATIONS

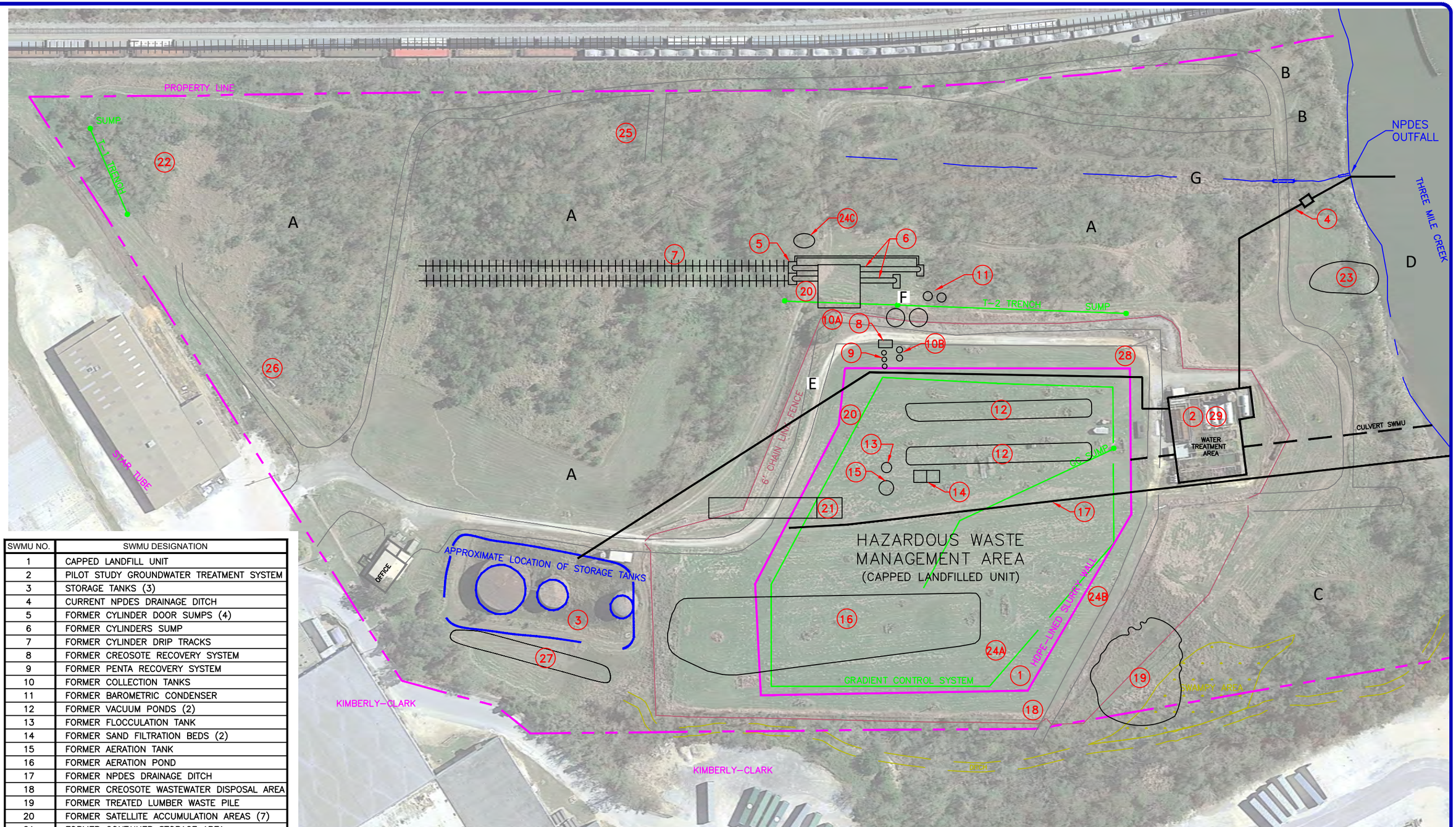
POINT OF COMPLIANCE WELL LOCATIONS

CAVENHAM FOREST INDUSTRIES LLC – MOBILE ALABAMA

DATE: 12/12/00	APPROVED: BY: ____ DATE: ____	DRAWN BY: K.R.K.
SCALE: 1" = 125'		CAD NO. Fig 31 -- Point of Compliance.dwg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 31



SWMU NO.	SWMU DESIGNATION
1	CAPPED LANDFILL UNIT
2	PILOT STUDY GROUNDWATER TREATMENT SYSTEM
3	STORAGE TANKS (3)
4	CURRENT NPDES DRAINAGE DITCH
5	FORMER CYLINDER DOOR SUMPS (4)
6	FORMER CYLINDERS SUMP
7	FORMER CYLINDER DRIP TRACKS
8	FORMER CREOSOTE RECOVERY SYSTEM
9	FORMER PENTA RECOVERY SYSTEM
10	FORMER COLLECTION TANKS
11	FORMER BAROMETRIC CONDENSER
12	FORMER VACUUM PONDS (2)
13	FORMER FLOCCULATION TANK
14	FORMER SAND FILTRATION BEDS (2)
15	FORMER AERATION TANK
16	FORMER AERATION POND
17	FORMER NPDES DRAINAGE DITCH
18	FORMER CREOSOTE WASTEWATER DISPOSAL AREA
19	FORMER TREATED LUMBER WASTE PILE
20	FORMER SATELLITE ACCUMULATION AREAS (7)
21	FORMER CONTAINER STORAGE AREA
22	NORTH TAR DEPOSIT
23	CREEK TAR DEPOSIT
24	SPOT DEPOSITS
25	FORMER CONICAL BURNER
26	BFI DUMPSTER
27	NEW AREA BEHIND TANK FARM
28	SCRAP DEBRIS HOLDING AREA
29	CURRENT GROUNDWATER TREATMENT SYSTEM
N/A	CULVERT

AOC LETTER	AOC NAME
A	FORMER TREATED WOOD STORAGE
B	DG-1A MONITORING WELL PLUME
C	FORMER OIL PIPELINE SITE
D	THREE MILE CREEK
E	FORMER UST LOCATION
F	FORMER WORKING TANK NO. 2
G	EASTERN DRAINAGE DITCH

N

0 62.5 125
SCALE IN FEET

SWMU AND AOC LOCATIONS

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 8/30/2024	APPROVED: BY: DATE:	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig S-1 SWMU-AOC LOC

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 32

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\Collin\Fig S-1 - SWMU-AOC Locations AERIAL.dwg Saved: - Tuesday, September 03, 2024 9:39 AM

RESOURCE CONSERVATION AND RECOVERY ACT

POST-CLOSURE

PERMIT APPLICATION

PART B

EPA ID# ALD 057 226 904

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

Volume II of III

September 27, 2024

ATTACHMENT A

CLOSURE CERTIFICATION DOCUMENTATION

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

SOIL TESTING ENGINEERS, INC

GEOTECHNICAL, ENVIRONMENTAL, & MATERIAL CONSULTANTS
P. O. BOX 190146 • 5302-D HALLS MILL ROAD • MOBILE, ALABAMA 36619 • PHONE (205) 661-1771

GORDON P. BOUTWELL, JR., PhD
CHARLES S. HEDGES
RONALD H. JONES
CHARLES W. McCUMSEY
REGISTERED PROFESSIONAL ENGINEERS

May 25, 1990

Cavenham Forest Industries
P.O. Box 2219
Gulfport, Mississippi 39505-2219

Attn: Mr. John Webb

RE: Quality Assurance Monitoring and Certification,
Cavenham Mobile Phase II Closure Construction,
Mobile, Alabama
File 88-2021

Gentlemen:

Soil Testing Engineers, Inc. by Charles S. Hedges, an Alabama licensed professional engineer specializing and experienced in geotechnical engineering, hereby certifies that the Phase II Closure has been constructed in general accordance with the plans and specifications issued September 20, 1988 except as discussed within the QA report. The exceptions noted in the QA report were changes made and approved by Cavenham Forest Industries as the actual construction proceeded.

This certification is based on full-time field QA monitoring performed by Soil Testing Engineers, Inc.

The professional engineer's certification comprises a declaration of his professional judgement. It does not constitute a warranty or guarantee, expressed or implied, by Soil Testing Engineers, Inc., or the signer. This certification is made under the EPA guidelines published in the Federal Register, July 26, 1982.

Very Truly Yours,

SOIL TESTING ENGINEERS, INC.

By _____
Charles S. Hedges, P.E.
Chief Engineer

ALABAMA REGISTERED No. 16923 PROFESSIONAL ENGINEER CHARLES S. HEDGES

CSH/tp

ATTACHMENT B

NPDES PERMIT

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

MARCH 31, 2022

CLYDE WOODYARD
PRESIDENT
CAVENHAM FOREST INDUSTRIES, LLC
PO BOX 15369
HATTIESBURG, MS 39404

RE: FINAL PERMIT
NPDES PERMIT NUMBER AL0001104

Dear Mr. Woodyard:

Attached is the issued copy of the above referenced permit. Please note the permit limitations and conditions with which the permittee must comply. No comments were received on the draft permit during the public comment period.

Future monitoring data should be submitted in accordance with the conditions of your permit. Please see PART I.C for your reporting requirements. To reduce the paperwork burden for both the Department and the Permittee, when submitting the required Discharge Monitoring Reports (DMRs), please **do not submit** lab worksheets, logs, reports or other paperwork not specifically required by the permit unless requested by ADEM staff.

Please be aware that Part I.C.1.c of your permit requires that you participate in the Department's web-based electronic reporting system for submittal of DMRs upon issuance of this permit unless valid justification as to why you cannot participate has been submitted to and approved by the Department. The Department transitioned from the E2 Reporting System to the Alabama Environmental Permitting and Compliance System (AEPACS) for the submittal of DMRs on November 15, 2021. AEPACS is an electronic system that allows facilities to apply for and maintain permits as well as submit other required applications, registrations, and certifications. In addition, the system allows facilities to submit required compliance reports or other information to the Department. The Department has used the E2 User account information to set up a similar User Profile in AEPACS based on the following criteria:

1. The user has logged in to E2 since October 1, 2019; and
2. The E2 user account is set up using a unique email address.

E2 users that met the above criteria will only need to establish an ADEM Web Portal account (https://prd.adem.alabama.gov/awp) under the same email address as their E2 account to have the same permissions in AEPACS as they did in E2. They will also automatically be linked to the same facilities they were in E2.

If you have questions regarding this permit or monitoring requirements, please contact **Scott Jackson** by e-mail at **scott.jackson@adem.alabama.gov** or by phone at **(334) 394-4366**.

Sincerely,

Scott Ramsey, Chief
Industrial Section
Industrial/Municipal Branch
Water Division

Enclosure: Final Permit

cc: EPA Region IV: Final Permit
Montgomery Field Office: Final Permit

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

ADEM
Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: CAVENHAM FOREST INDUSTRIES, LLC

FACILITY: CAVENHAM FOREST INDUSTRIES, LLC
SOUTH END HERBERT STREET
MOBILE, AL 36601

PERMIT NUMBER: AL0001104

RECEIVING WATERS: DSN001: THREEMILE CREEK

*In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1388 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, **Code of Alabama 1975**, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended, **Code of Alabama 1975**, §§22-22A-1 to 22-22A-17, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.*

ISSUANCE DATE: MARCH 31, 2022

EFFECTIVE DATE: APRIL 1, 2022

EXPIRATION DATE: MARCH 31, 2027

Jeffery W. Kitchens
Alabama Department of Environmental Management

INDUSTRIAL SECTION
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

TABLE OF CONTENTS

PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS 1

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS 1

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS 3

1. Representative Sampling 3
2. Test Procedures 3
3. Recording of Results 3
4. Records Retention and Production 3
5. Monitoring Equipment and Instrumentation 4

C. DISCHARGE REPORTING REQUIREMENTS 4

1. Reporting of Monitoring Requirements 4
2. Noncompliance Notification 6

D. OTHER REPORTING AND NOTIFICATION REQUIREMENTS 7

1. Anticipated Noncompliance 7
2. Termination of Discharge 7
3. Updating Information 7
4. Duty to Provide Information 7
5. Cooling Water and Boiler Water Additives 7
6. Permit Issued Based On Estimated Characteristics 7

E. SCHEDULE OF COMPLIANCE 8

PART II OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES 9

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS 9

1. Facilities Operation and Maintenance 9
2. Best Management Practices 9
3. Spill Prevention, Control, and Management 9

B. OTHER RESPONSIBILITIES 9

1. Duty to Mitigate Adverse Impacts 9
2. Right of Entry and Inspection 9

C. BYPASS AND UPSET 9

1. Bypass 9
2. Upset 10

D. DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES 10

1. Duty to Comply 10
2. Removed Substances 10
3. Loss or Failure of Treatment Facilities 11
4. Compliance with Statutes and Rules 11

E. PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, AND REISSUANCE 11

1. Duty to Reapply or Notify of Intent to Cease Discharge 11
2. Change in Discharge 11
3. Transfer of Permit 12
4. Permit Modification and Revocation 12
5. Permit Termination 13
6. Permit Suspension 13
7. Request for Permit Action Does Not Stay Any Permit Requirement 13

F. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION 13

G. DISCHARGE OF WASTEWATER GENERATED BY OTHERS 13

PART III OTHER PERMIT CONDITIONS 14

A. CIVIL AND CRIMINAL LIABILITY 14

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY 14

C. PROPERTY AND OTHER RIGHTS 14

D. AVAILABILITY OF REPORTS 15

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES 15

F. COMPLIANCE WITH WATER QUALITY STANDARDS 15

G. GROUNDWATER 15

H. DEFINITIONS 15

I. SEVERABILITY 18

PART IV ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS 19

A. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS 19

B. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS 21

PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN0011: Treated groundwater and contaminated storm water from groundwater and soil remediation. 3/

Such discharge shall be limited and monitored by the permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	8.5 Maximum Daily	S.U.	Weekly	Grab	All Months
Carbon, Tot Organic (TOC) (00680) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	2X Monthly	Composite	All Months
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Totalizer	All Months
Chemical Oxygen Demand (COD) (2) (81017) Effluent Gross Value	*****	*****	*****	*****	(Report) Monthly Average	(Report) Maximum Daily	mg/l	2X Monthly	Composite	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN001T: Treated groundwater and contaminated storm water from groundwater and soil remediation. 3/

Such discharge shall be limited and monitored by the permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Frequency	Sample Type	Seasonal
P/F Stat 24Hr Acu Mysid. Bahia 4/ (TGE3E) Effluent Gross Value	*****	*****	*****	*****	*****	0 Single Sample	pass=0; fail=1	Quarterly	Grab	All Months
P/F Stat 24Hr Cyprinodon 4/ (TGE6A) Effluent Gross Value	*****	*****	*****	*****	*****	0 Single Sample	pass=0; fail=1	Quarterly	Grab	All Months

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment. Unless otherwise specified, composite samples shall be time composite samples collected using automatic sampling equipment or a minimum of eight (8) equal volume grab samples collected over equal time intervals. All composite samples shall be collected for the total period of discharge not to exceed 24 hours.

2/ If only one sampling event occurs during a month, the sample result shall be reported on the discharge monitoring report as both the monthly average and daily maximum value for all parameters with a monthly average limitation.

3/ See Part IV.A for Best Management Practices (BMP) Plan Requirements.

4/ See Part IV.B for Effluent Toxicity Limitations and Biomonitoring Requirements.

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this permit.

2. Test Procedures

For the purpose of reporting and compliance, permittees shall use one of the following procedures:

a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h). If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance; however, should EPA approve a method with a lower minimum level during the term of this permit the permittee shall use the newly approved method.

b. For pollutants parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures A and B above shall be reported on the permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

3. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The facility name and location, point source number, date, time and exact place of sampling:

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used, including source of method and method number; and

f. The results of all required analyses.

4. Records Retention and Production

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the above reports or the application for this permit, for a period of at least three years from the date of the sample measurement, report or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director or his designee, the permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records shall not be submitted unless requested.

All records required to be kept for a period of three years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

5. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

C. DISCHARGE REPORTING REQUIREMENTS

1. Reporting of Monitoring Requirements

a. The permittee shall conduct the required monitoring in accordance with the following schedule:

MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this permit and every month thereafter.

QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this permit, but it should be submitted with the last DMR due for the quarter, i.e., (March, June, September and December DMR's).

SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The permittee shall conduct the semiannual monitoring during the first complete calendar semiannual period following the effective date of this permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this permit, but it should be submitted with the last DMR for the month of the semiannual period, i.e. (June and December DMR's).

ANNUAL MONITORING shall be conducted at least once during the period of January through December. The permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this permit, but it should be submitted with the December DMR.

b. The permittee shall submit discharge monitoring reports (DMRs) on the forms provided by the Department and in accordance with the following schedule:

REPORTS OF MORE FREQUENTLY THAN MONTHLY AND MONTHLY TESTING shall be submitted on a **monthly** basis. The first report is due on the **28th day of May, 2022.** The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF QUARTERLY TESTING shall be submitted on a **quarterly** basis. The first report is due on the **28th day of July, 2022.** The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF SEMIANNUAL TESTING shall be submitted on a semiannual basis. The reports are due on the 28th day of JANUARY and the 28th day of JULY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

REPORTS OF ANNUAL TESTING shall be submitted on an annual basis. The first report is due on the 28th day of JANUARY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period.

c. Except as allowed by Provision I.C.1.c.(1) or (2), the permittee shall submit all Discharge Monitoring Reports (DMRs) required by Provision I.C.1.b electronically.

(1) If the permittee is unable to complete the electronic submittal of DMR data due to technical problems originating with the Department's electronic system (this could include entry/submittal issues with an entire set of DMRs or individual parameters), the permittee is not relieved of their obligation to submit DMR data to the Department by the date specified in Provision I.C.1.b, unless otherwise directed by the Department.

If the Department's electronic system is down on the 28th day of the month in which the DMR is due or is down for an extended period of time, as determined by the Department, when a DMR is required to be submitted, the permittee may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within 5 calendar days of the Department's electronic system resuming operation, the permittee shall enter the data into the Department's electronic system, unless an alternate timeframe is approved by the Department. A comment should be included on the electronic DMR submittal verifying the original submittal date (date of the fax, copy of the dated e-mail, or hand-delivery stamped date), if applicable.

(2) The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable.

Permittees with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The permittee shall submit the Department-approved DMR forms to the address listed in Provision I.C.1.e.

(3) If a permittee is allowed to submit a hard copy DMR, the DMR must be legible and bear an original signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this permit.

(4) If the permittee, using approved analytical methods as specified in Provision I.B.2, monitors any discharge from a point source for a limited substance identified in Provision I.A. of this permit more frequently than required by this permit, the results of such monitoring shall be included in the calculation and reporting of values on the DMR and the increased frequency shall be indicated on the DMR.

(5) In the event no discharge from a point source identified in Provision I.A. of this permit and described more fully in the permittee's application occurs during a monitoring period, the permittee shall report "No Discharge" for such period on the appropriate DMR.

d. All reports and forms required to be submitted by this permit, the AWPCA and the Department's Rules, shall be electronically signed (or, if allowed by the Department, traditionally signed) by a "responsible official" of the permittee as defined in ADEM Administrative Code Rule 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Administrative Code Rule 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

e. Discharge Monitoring Reports required by this permit, the AWPCA, and the Department's Rules that are being submitted in hard copy shall be addressed to:

Alabama Department of Environmental Management
Permits and Services Division
Environmental Data Section
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail containing Discharge Monitoring Reports shall be addressed to:

Alabama Department of Environmental Management
Permits and Services Division
Environmental Data Section
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

f. All other correspondence and reports required to be submitted by this permit, the AWPCA, and the Department's Rules shall be addressed to:

Alabama Department of Environmental Management
Water Division
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

g. If this permit is a re-issuance, then the permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.C.1.b above.

2. Noncompliance Notification

a. 24-Hour Noncompliance Reporting

The permittee shall report to the Director, within 24-hours of becoming aware of the noncompliance, any noncompliance which may endanger health or the environment. This shall include but is not limited to the following circumstances:

(1) does not comply with any daily minimum or maximum discharge limitation for an effluent characteristic specified in Provision I. A. of this permit which is denoted by an "(X)";

(2) threatens human health or welfare, fish or aquatic life, or water quality standards;

(3) does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a);

(4) contains a quantity of a hazardous substance which has been determined may be harmful to public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. Section 1321(b)(4);

(5) exceeds any discharge limitation for an effluent characteristic as a result of an unanticipated bypass or upset; and

(6) is an unpermitted direct or indirect discharge of a pollutant to a water of the state (unpermitted discharges properly reported to the Department under any other requirement are not required to be reported under this provision).

The permittee shall orally report the occurrence and circumstances of such discharge to the Director within 24-hours after the permittee becomes aware of the occurrence of such discharge. In addition to the oral report, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c no later than five (5) days after becoming aware of the occurrence of such discharge.

b. If for any reason, the permittee's discharge does not comply with any limitation of this permit, the permittee shall submit to the Director or Designee a written report as provided in Part I.C.2.c below, such report shall be submitted with the next Discharge Monitoring Report required to be submitted by Part I.C.1 of this permit after becoming aware of the occurrence of such noncompliance.

c. Any written report required to be submitted to the Director or Designee by Part I.C.2 a. or b. shall be submitted using a Noncompliance Notification Form (ADEM Form 421) available on the Department's website (http://adem.alabama.gov/DeptForms/Form421.pdf) and include the following information:

(1) A description of the discharge and cause of noncompliance;

(2) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

(3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

D. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

   The permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

2. Termination of Discharge

   The permittee shall notify the Director, in writing, when all discharges from any point source(s) identified in Provision I. A. of this permit have permanently ceased. This notification shall serve as sufficient cause for instituting procedures for modification or termination of the permit.

3. Updating Information

   a. The permittee shall inform the Director of any change in the permittee's mailing address, telephone number or in the permittee's designation of a facility contact or office having the authority and responsibility to prevent and abate violations of the AWPCA, the Department's Rules, and the terms and conditions of this permit, in writing, no later than ten (10) days after such change. Upon request of the Director or his designee, the permittee shall furnish the Director with an update of any information provided in the permit application.

   b. If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

4. Duty to Provide Information

   The permittee shall furnish to the Director, within a reasonable time, any information which the Director or his designee may request to determine whether cause exists for modifying, revoking and re-issuing, suspending, or terminating this permit, in whole or in part, or to determine compliance with this permit.

5. Cooling Water and Boiler Water Additives

   a. The permittee shall notify the Director in writing not later than thirty (30) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in a cooling or boiler system, not identified in the application for this permit, from which discharge is allowed by this permit. Notification is not required for additives that do not contain a heavy metal(s) as an active ingredient and that pass through a wastewater treatment system prior to discharge nor is notification required for additives that should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer's data or testing by the permittee. Such notification shall include:

      (1) name and general composition of biocide or chemical;

      (2) 96-hour median tolerance limit data for organisms representative of the biota of the waterway into which the discharge will ultimately reach;

      (3) quantities to be used;

      (4) frequencies of use;

      (5) proposed discharge concentrations; and

      (6) EPA registration number, if applicable.

   b. The use of a biocide or additive containing tributyl tin, tributyl tin oxide, zinc, chromium or related compounds in cooling or boiler system(s), from which a discharge regulated by this permit occurs, is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or additive will not pose a reasonable potential to violate the applicable State water quality standards for these substances. The use of any additive, not identified in this permit or in the application for this permit or not exempted from notification under this permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

6. Permit Issued Based On Estimated Characteristics

a. If this permit was issued based on estimates of the characteristics of a process discharge reported on an EPA NPDES Application Form 2D (EPA Form 3510-2D), the permittee shall complete and submit an EPA NPDES Application Form 2C (EPA Form 3510-2C) no later than two years after the date that discharge begins. Sampling required for completion of the Form 2C shall occur when a discharge(s) from the process(s) causing the new or increased discharge is occurring. If this permit was issued based on estimates concerning the composition of a stormwater discharge(s), the permittee shall perform the sampling required by EPA NPDES Application Form 2F (EPA Form 3510-2F) no later than one year after the industrial activity generating the stormwater discharge has been fully initiated.

b. This permit shall be reopened if required to address any new information resulting from the completion and submittal of the Form 2C and or 2F.

E. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the discharge limitations specified in Provision I. A. in accordance with the following schedule:

COMPLIANCE SHALL BE ATTAINED ON THE EFFECTIVE DATE OF THIS PERMIT

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

PART II OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit.

2. Best Management Practices

a. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director or his designee has granted prior written authorization for dilution to meet water quality requirements.

b. The permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. Section 112 if required thereby.

c. The permittee shall prepare, submit for approval and implement a Best Management Practices (BMP) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a significant potential for discharge, if so required by the Director or his designee. When submitted and approved, the BMP Plan shall become a part of this permit and all requirements of the BMP Plan shall become requirements of this permit.

3. Spill Prevention, Control, and Management

The permittee shall provide spill prevention, control, and/or management sufficient to prevent any spills of pollutants from entering a water of the state or a publicly or privately owned treatment works. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and which shall prevent the contamination of groundwater and such containment system shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided.

B. OTHER RESPONSIBILITIES

1. Duty to Mitigate Adverse Impacts

The permittee shall promptly take all reasonable steps to mitigate and minimize or prevent any adverse impact on human health or the environment resulting from noncompliance with any discharge limitation specified in Provision I. A. of this permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as necessary to determine the nature and impact of the noncomplying discharge.

2. Right of Entry and Inspection

The permittee shall allow the Director, or an authorized representative, upon the presentation of proper credentials and other documents as may be required by law to:

a. enter upon the permittee's premises where a regulated facility or activity or point source is located or conducted, or where records must be kept under the conditions of the permit;

b. have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit:

c. inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

d. sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

C. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in b. and c. below:

b. A bypass is not prohibited if:

(1) It does not cause any discharge limitation specified in Provision I. A. of this permit to be exceeded;

(2) It enters the same receiving stream as the permitted outfall; and

(3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and

(3) The permittee submits a written request for authorization to bypass to the Director at least ten (10) days prior to the anticipated bypass (if possible), the permittee is granted such authorization, and the permittee complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass.

d. The permittee has the burden of establishing that each of the conditions of Provision II.C.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in a. and an exemption, where applicable, from the discharge limitations specified in Provision I. A. of this permit.

2. Upset

a. A discharge which results from an upset need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, the permittee orally reports the occurrence and circumstances of the upset to the Director or his designee; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, the permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, or other relevant evidence, demonstrating that (i) an upset occurred; (ii) the permittee can identify the specific cause(s) of the upset; (iii) the permittee's facility was being properly operated at the time of the upset; and (iv) the permittee promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset.

b. The permittee has the burden of establishing that each of the conditions of Provision II. C.2.a. of this permit have been met to qualify for an exemption from the discharge limitations specified in Provision I.A. of this permit.

D. DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES

1. Duty to Comply

a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the AWPCA and the FWPCA and is grounds for enforcement action, for permit termination, revocation and reissuance, suspension, modification; or denial of a permit renewal application.

b. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of the permit shall not be a defense for a permittee in an enforcement action.

c. The discharge of a pollutant from a source not specifically identified in the permit application for this permit and not specifically included in the description of an outfall in this permit is not authorized and shall constitute noncompliance with this permit.

d. The permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this permit or to minimize or prevent any adverse impact of any permit violation.

e. Nothing in this permit shall be construed to preclude and negate the permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, Federal, State, or Local Government permits, certifications, licenses, or other approvals.

2. Removed Substances

Solids, sludges, filter backwash, or any other pollutant or other waste removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department Rules.

3. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facilities. including but not limited to the loss or failure of the primary source of power of the treatment facility, the permittee shall, where necessary to maintain compliance with the discharge limitations specified in Provision I. A. of this permit, or any other terms or conditions of this permit, cease, reduce, or otherwise control production and/or all discharges until treatment is restored. If control of discharge during loss or failure of the primary source of power is to be accomplished by means of alternate power sources, standby generators, or retention of inadequately treated effluent, the permittee must furnish to the Director within six months a certification that such control mechanisms have been installed.

4. Compliance with Statutes and Rules

a. This permit has been issued under ADEM Administrative Code, Chapter 335-6-6. All provisions of this chapter, that are applicable to this permit, are hereby made a part of this permit. A copy of this chapter may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36130.

b. This permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

E. PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, AND REISSUANCE

1. Duty to Reapply or Notify of Intent to Cease Discharge

a. If the permittee intends to continue to discharge beyond the expiration date of this permit, the permittee shall file a complete permit application for reissuance of this permit at least 180 days prior to its expiration. If the permittee does not intend to continue discharge beyond the expiration of this permit, the permittee shall submit written notification of this intent which shall be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Administrative Code Rule 335-6-6-.09.

b. Failure of the permittee to apply for reissuance at least 180 days prior to permit expiration will void the automatic continuation of the expiring permit provided by ADEM Administrative Code Rule 335-6-6-.06 and should the permit not be reissued for any reason any discharge after expiration of this permit will be an unpermitted discharge.

2. Change in Discharge

a. The permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants or increase the quantity of a discharged pollutant such that existing permit limitations would be exceeded or that could result in an additional discharge point. This requirement applies to pollutants that are or that are not subject to discharge limitations in this permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

b. The permittee shall notify the Director as soon as it is known or there is reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(a) one hundred micrograms per liter:

(b) two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dini-trophenol; and one milligram per liter for antimony:

(c) five times the maximum concentration value reported for that pollutant in the permit application; or

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

(a) five hundred micrograms per liter;

(b) one milligram per liter for antimony:

(c) ten times the maximum concentration value reported for that pollutant in the permit application

3. Transfer of Permit

This permit may not be transferred or the name of the permittee changed without notice to the Director and subsequent modification or revocation and reissuance of the permit to identify the new permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership or control of the permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership or control of the permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership or control, he may decide not to modify the existing permit and require the submission of a new permit application.

4. Permit Modification and Revocation

a. This permit may be modified or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to revoke and reissue this permit instead of terminating the permit:

(2) If a request to transfer this permit has been received, the Director may decide to revoke and reissue or to modify the permit; or

(3) If modification or revocation and reissuance is requested by the permittee and cause exists, the Director may grant the request.

b. This permit may be modified during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to modify this permit instead of terminating this permit;

(2) There are material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(3) The Director has received new information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;

(4) A new or revised requirement(s) of any applicable standard or limitation is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA;

(5) Errors in calculation of discharge limitations or typographical or clerical errors were made;

(6) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;

(7) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, permits may be modified to change compliance schedules;

(8) To agree with a granted variance under 30l(c), 30l(g), 30l(h), 30l(k), or 3l6(a) of the FWPCA or for fundamentally different factors;

(9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;

(10) When required by the reopener conditions in this permit;

(11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);

(12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;

(13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or

(14) When requested by the permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules.

5. Permit Termination

This permit may be terminated during its term for cause, including but not limited to, the following:

a. Violation of any term or condition of this permit;

b. The permittee's misrepresentation or failure to disclose fully all relevant facts in the permit application or during the permit issuance process or the permittee's misrepresentation of any relevant facts at any time;

c. Materially false or inaccurate statements or information in the permit application or the permit;

d. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

e. The permittee's discharge threatens human life or welfare or the maintenance of water quality standards;

f. Permanent closure of the facility generating the wastewater permitted to be discharged by this permit or permanent cessation of wastewater discharge;

g. New or revised requirements of any applicable standard or limitation that is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA that the Director determines cannot be complied with by the permittee; or

h. Any other cause allowed by the ADEM Administrative Code, Chapter 335-6-6.

6. Permit Suspension

This permit may be suspended during its term for noncompliance until the permittee has taken action(s) necessary to achieve compliance.

7. Request for Permit Action Does Not Stay Any Permit Requirement

The filing of a request by the permittee for modification, suspension or revocation of this permit, in whole or in part, does not stay any permit term or condition.

F. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a), for a toxic pollutant discharged by the permittee and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Provision I. A. of this permit, or controls a pollutant not limited in Provision I. A. of this permit, this permit shall be modified to conform to the toxic pollutant effluent standard or prohibition and the permittee shall be notified of such modification. If this permit has not been modified to conform to the toxic pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the permittee shall attain compliance with the requirements of the standard or prohibition within the time period required by the standard or prohibition and shall continue to comply with the standard or prohibition until this permit is modified or reissued.

G. DISCHARGE OF WASTEWATER GENERATED BY OTHERS

The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the permittee or not identified in the application for this permit or not identified specifically in the description of an outfall in this permit is not authorized by this permit.

PART III OTHER PERMIT CONDITIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under the permit shall, upon conviction, be subject to penalties as provided by the AWPCA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties as provided by the AWPCA.

3. Permit Enforcement

a. Any NPDES permit issued or reissued by the Department is a permit for the purpose of the AWPCA and the FWPCA and as such any terms, conditions, or limitations of the permit are enforceable under state and federal law.

b. Any person required to have a NPDES permit pursuant to ADEM Administrative Code Chapter 335-6-6 and who discharges pollutants without said permit, who violates the conditions of said permit, who discharges pollutants in a manner not authorized by the permit, or who violates applicable orders of the Department or any applicable rule or standard of the Department, is subject to any one or combination of the following enforcement actions under applicable state statutes.

(1) An administrative order requiring abatement, compliance, mitigation, cessation, clean-up, and/or penalties;

(2) An action for damages;

(3) An action for injunctive relief: or

(4) An action for penalties.

c. If the permittee is not in compliance with the conditions of an expiring or expired permit the Director may choose to do any or all of the following provided the permittee has made a timely and complete application for reissuance of the permit:

(1) initiate enforcement action based upon the permit which has been continued;

(2) issue a notice of intent to deny the permit reissuance. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) reissue the new permit with appropriate conditions; or

(4) take other actions authorized by these rules and AWPCA.

4. Relief from Liability

Except as provided in Provision II.C.1 (Bypass) and Provision II.C.2 (Upset), nothing in this permit shall be construed to relieve the permittee of civil or criminal liability under the AWPCA or FWPCA for noncompliance with any term or condition of this permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the FWPCA, 33 U.S.C. Section 1321.

C. PROPERTY AND OTHER RIGHTS

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of federal, state, or local laws or regulations.

nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the state or of the United States.

D. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, Section 22-22-9(c), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential.

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

1. If this permit was issued for a new discharger or new source, this permit shall expire eighteen months after the issuance date if construction of the facility has not begun during the eighteen-month period.

2. If this permit was issued or modified to allow the discharge of increased quantities of pollutants to accommodate the modification of an existing facility and if construction of this modification has not begun during the eighteen month period after issuance of this permit or permit modification, this permit shall be modified to reduce the quantities of pollutants allowed to be discharged to those levels that would have been allowed if the modification of the facility had not been planned.

3. Construction has begun when the owner or operator has:

   a. begun, or caused to begin as part of a continuous on-site construction program:

      (1) any placement, assembly, or installation of facilities or equipment; or

      (2) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment: or

   b. entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

F. COMPLIANCE WITH WATER QUALITY STANDARDS

1. On the basis of the permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this permit should assure compliance with the applicable water quality standards.

2. Compliance with permit terms and conditions notwithstanding, if the permittee's discharge(s) from point sources identified in Provision I. A. of this permit cause or contribute to a condition in contravention of state water quality standards, the Department may require abatement action to be taken by the permittee in emergency situations or modify the permit pursuant to the Department's Rules, or both.

3. If the Department determines, on the basis of a notice provided pursuant to this permit or any investigation, inspection or sampling, that a modification of this permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the discharge until the permit has been modified.

G. GROUNDWATER

Unless specifically authorized under this permit, this permit does not authorize the discharge of pollutants to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem and the Director may require that the Permittee undertake measures to abate any such discharge and/or contamination.

H. DEFINITIONS

1. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

2. Average weekly discharge limitation - means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges"

measured during that week (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

3. Arithmetic Mean – means the summation of the individual values of any set of values divided by the number of individual values.

4. AWPCA - means the Alabama Water Pollution Control Act.

5. BOD – means the five-day measure of the pollutant parameter biochemical oxygen demand.

6. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.

7. CBOD – means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.

8. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.

9. Daily maximum - means the highest value of any individual sample result obtained during a day.

10. Daily minimum - means the lowest value of any individual sample result obtained during a day.

11. Day - means any consecutive 24-hour period.

12. Department - means the Alabama Department of Environmental Management.

13. Director - means the Director of the Department.

14. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other wastes into waters of the state". Code of Alabama 1975, Section 22-22-1(b)(8).

15. Discharge Monitoring Report (DMR) - means the form approved by the Director to accomplish reporting requirements of an NPDES permit.

16. DO – means dissolved oxygen.

17. 8HC – means 8-hour composite sample, including any of the following:

    a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

    b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

18. EPA - means the United States Environmental Protection Agency.

19. FC – means the pollutant parameter fecal coliform.

20. Flow – means the total volume of discharge in a 24-hour period.

21. FWPCA - means the Federal Water Pollution Control Act.

22. Geometric Mean – means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).

23. Grab Sample – means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.

24. Indirect Discharger – means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.

25. Industrial User – means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.

26. MGD – means million gallons per day.

27. Monthly Average – means, other than for fecal coliform bacteria, the arithmetic mean of the entire composite or grab samples taken for the daily discharges collected in one month period. The monthly average for fecal coliform bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period.

28. New Discharger – means a person, owning or operating any building, structure, facility or installation:

    a. from which there is or may be a discharge of pollutants;

    b. that did not commence the discharge of pollutants prior to August 13, 1979, and which is not a new source; and

    c. which has never received a final effective NPDES permit for dischargers at that site.

29. NH3-N – means the pollutant parameter ammonia, measured as nitrogen.

30. Permit application - means forms and additional information that is required by ADEM Administrative Code Rule 335-6-6-.08 and applicable permit fees.

31. Point source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, . . . from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. Section 1362(14).

32. Pollutant - includes for purposes of this permit, but is not limited to, those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and those effluent characteristics specified in Provision I. A. of this permit.

33. Privately Owned Treatment Works – means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".

34. Publicly Owned Treatment Works – means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.

35. Receiving Stream – means the "waters" receiving a "discharge" from a "point source".

36. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

37. Significant Source – means a source which discharges 0.025 MGD or more to a POTW or greater than five percent of the treatment work's capacity, or a source which is a primary industry as defined by the U.S. EPA or which discharges a priority or toxic pollutant.

38. Solvent – means any virgin, used or spent organic solvent(s) identified in the F-Listed wastes (F001 through F005) specified in 40 CFR 261.31 that is used for the purpose of solubilizing other materials.

39. TKN – means the pollutant parameter Total Kjeldahl Nitrogen.

40. TON – means the pollutant parameter Total Organic Nitrogen.

41. TRC – means Total Residual Chlorine.

42. TSS – means the pollutant parameter Total Suspended Solids.

43. 24HC – means 24-hour composite sample, including any of the following:

    a. the mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours:

b. a sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or

c. a sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

44. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

45. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, Section 22-22-1(b)(2). Waters "include all navigable waters" as defined in Section 502(7) of the FWPCA, 22 U.S.C. Section 1362(7), which are within the State of Alabama.

46. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

47. Weekly (7-day and calendar week) Average – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

I. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART IV ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. BEST MANAGEMENT PRACTICES (BMP) PLAN REQUIREMENTS

1. BMP Plan

The permittee shall develop and implement a Best Management Practices (BMP) Plan which prevents, or minimizes the potential for, the release of pollutants from ancillary activities, including material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas, to the waters of the State through plant site runoff; spillage or leaks; sludge or waste disposal; or drainage from raw material storage.

2. Plan Content

The permittee shall prepare and implement a best management practices (BMP) plan, which shall:

a. Establish specific objectives for the control of pollutants:

(1) Each facility component or system shall be examined for its potential for causing a release of significant amounts of pollutants to waters of the State due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

(2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g. precipitation), or circumstances to result in significant amounts of pollutants reaching surface waters, the plan should include a prediction of the direction, rate of flow, and total quantity of pollutants which could be discharged from the facility as a result of each condition or circumstance.

b. Establish specific best management practices to meet the objectives identified under paragraph a. of this section, addressing each component or system capable of causing a release of significant amounts of pollutants to the waters of the State, and identifying specific preventative or remedial measures to be implemented;

c. Establish a program to identify and repair leaking equipment items and damaged containment structures, which may contribute to contaminated stormwater runoff. This program must include regular visual inspections of equipment, containment structures and of the facility in general to ensure that the BMP is continually implemented and effective;

d. Prevent the spillage or loss of fluids, oil, grease, gasoline, etc. from vehicle and equipment maintenance activities and thereby prevent the contamination of stormwater from these substances;

e. Prevent or minimize stormwater contact with material stored on site;

f. Designate by position or name the person or persons responsible for the day to day implementation of the BMP;

g. Provide for routine inspections, on days during which the facility is manned, of any structures that function to prevent stormwater pollution or to remove pollutants from stormwater and of the facility in general to ensure that the BMP is continually implemented and effective;

h. Provide for the use and disposal of any material used to absorb spilled fluids that could contaminate stormwater;

i. Develop a solvent management plan, if solvents are used on site. The solvent management plan shall include as a minimum lists of the solvents on site; the disposal method of solvents used instead of dumping, such as reclamation, contract hauling; and the procedures for assuring that solvents do not routinely spill or leak into the stormwater;

j. Provide for the disposal of all used oils, hydraulic fluids, solvent degreasing material, etc. in accordance with good management practices and any applicable state or federal regulations;

k. Include a diagram of the facility showing the locations where stormwater exits the facility, the locations of any structure or other mechanisms intended to prevent pollution of stormwater or to remove pollutants from stormwater, the locations of any collection and handling systems;

l. Provide control sufficient to prevent or control pollution of stormwater by soil particles to the degree required to maintain compliance with the water quality standard for turbidity applicable to the waterbody(s) receiving discharge(s) under this permit;

m. Provide spill prevention, control, and/or management sufficient to prevent or minimize contaminated stormwater runoff. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and shall prevent the contamination of groundwater. The containment system shall also be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided:

n. Provide and maintain curbing, diking or other means of isolating process areas to the extent necessary to allow segregation and collection for treatment of contaminated stormwater from process areas;

o. Be reviewed by plant engineering staff and the plant manager; and

p. Bear the signature of the plant manager.

3. Compliance Schedule

The permittee shall have reviewed (and revised if necessary) and fully implemented the BMP plan as soon as practicable but no later than six months after the effective date of this permit.

4. Department Review

a. When requested by the Director or his designee, the permittee shall make the BMP available for Department review.

b. The Director or his designee may notify the permittee at any time that the BMP is deficient and require correction of the deficiency.

c. The permittee shall correct any BMP deficiency identified by the Director or his designee within 30 days of receipt of notification and shall certify to the Department that the correction has been made and implemented.

5. Administrative Procedures

a. A copy of the BMP shall be maintained at the facility and shall be available for inspection by representatives of the Department.

b. A log of the routine inspection required above shall be maintained at the facility and shall be available for inspection by representatives of the Department. The log shall contain records of all inspections performed for the last three years and each entry shall be signed by the person performing the inspection.

c. The permittee shall provide training for any personnel required to implement the BMP and shall retain documentation of such training at the facility. This documentation shall be available for inspection by representatives of the Department. Training shall be performed prior to the date that implementation of the BMP is required.

d. BMP Plan Modification. The permittee shall amend the BMP plan whenever there is a change in the facility or change in operation of the facility which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.

e. BMP Plan Review. The permittee shall complete a review and evaluation of the BMP plan at least once every three years from the date of preparation of the BMP plan. Documentation of the BMP Plan review and evaluation shall be signed and dated by the Plant Manager.

B. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS

1. The permittee shall perform 24-hour acute toxicity tests on the wastewater discharges required to be tested for acute toxicity by Part I of this permit.

   a. Test Requirements

      (1) The tests shall be performed using undiluted effluent.

      (2) Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this permit.

   b. General Test Requirements:

      (1) A grab sample shall be obtained for use in above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the permittee and approved by the Department.

      (2) Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the permittee shall rerun the tests as soon as practical within the monitoring period.

      (3) In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

   c. Reporting Requirements:

      (1) The permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

      (2) Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 2. of this part, an effluent toxicity report containing the information in Section 2. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

   d. Additional Testing Requirements:

      (1) If acute toxicity is indicated (noncompliance with permit limit), the permittee shall perform four additional valid acute toxicity tests in accordance with these procedures to determine the extent and duration of the toxic condition. The toxicity tests shall be performed once per week and shall be performed during the first four calendar weeks following the date on which the permittee became aware of the permit noncompliance and the results of these tests shall be submitted no later than 28 days following the month in which the tests were performed.

      (2) After evaluation of the results of the follow-up tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

   e. Test Methods:

      (1) The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the sheepshead minnow (*Cyprinidon variegatus*) and the mysid shrimp (*Mysidopsis bahia*).

2. Effluent toxicity testing reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any time suspend or reinstate this requirement or may increase or decrease the frequency of submittals.

a. Introduction

(1) Facility Name, location and county
(2) Permit number
(3) Toxicity testing requirements of permit
(4) Name of receiving water body
(5) Contract laboratory information (if tests are performed under contract)
  (a) Name of firm
  (b) Telephone number
  (c) Address
(6) Objective of test

b. Plant Operations

(1) Discharge operating schedule (if other than continuous)
(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection date (MGD, CFS, GPM)
(3) Design flow of treatment facility at time of sampling

c. Source of Effluent and Dilution Water

(1) Effluent samples

  (a) Sampling point
  (b) Sample collection dates and times (to include composite sample start and finish times)
  (c) Sample collection method
  (d) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)
  (e) Sample temperature when received at the laboratory
  (f) Lapsed time from sample collection to delivery
  (g) Lapsed time from sample collection to test initiation

(2) Dilution Water Samples

  (a) Source
  (b) Collection date(s) and time(s) (where applicable)
  (c) Pretreatment
  (d) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductance, etc.)

d. Test Conditions

(1) Toxicity test method utilized
(2) End point(s) of test
(3) Deviations from referenced method, if any, and reason(s)
(4) Date and time test started
(5) Date and time test terminated
(6) Type and volume of test chambers
(7) Volume of solution per chamber
(8) Number of organisms per test chamber
(9) Number of replicate test chambers per treatment
(10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)
(11) Feeding frequency, and amount and type of food
(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name
(2) Life stage and age
(3) Source
(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source
(2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)
(3) Dilution water utilized in reference toxicant test
(4) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.
(5) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate
(2) Provide table of endpoints: LC50, NOAEC, Pass/Fail (as required in the applicable NPDES permit)
(3) Indicate statistical methods used to calculate endpoints
(4) Provide all physical and chemical data required by method
(5) Results of test(s) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship **(definitive test only)**, report percent minimum significant difference (PMSD).

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits
(2) Action to be taken

1/ Adapted from "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", Fifth Edition, October 2002 (EPA 821-R-02-012), Section 12, Report Preparation

ATTACHMENT C

WASTE ANALYSIS PLAN

CAVENHAM FOREST INDUSTRIES LLC.
Mobile, Alabama

WASTE ANALYSIS PLAN

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

WASTE ANALYSIS PLAN
Cavenham Forest Industries Inc.
Mobile, Alabama

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 PARAMETERS AND FREQUENCY 1
3.0 EQUIPMENT INVENTORY 2
4.0 SAMPLE COLLECTION 2
5.0 SAMPLE PRESERVATION AND SHIPMENT 2
6.0 ANALYSIS 3
7.0 RECORDKEEPING 3
8.0 SAMPLE LABELS 3
9.0 CHAIN-OF-CUSTODY 3

TABLES

C-1 Hazardous Constituents

C-2 Sampling Equipment Checklist

C-3 Sample Collection and Preservation

EXHIBIT

Exhibit C-1 Off-site Laboratory Information

Exhibit C-2 Label

Exhibit C-3 Chain-of-Custody Record

WASTE ANALYSIS PLAN
Cavenham Forest Industries Inc.
Mobile, Alabama

1.0 INTRODUCTION

The Cavenham Forest Industries Inc. (CFI) Waste Analysis Plan is designed to satisfy the requirements of ADEM Administrative Code Rule: 335-14-5-.02(4)

During the post-closure care period this facility will not be accepting any waste from new (off-site) sources and the only on-site waste streams that may contain a hazardous component are:

- the recovered ground water from the gradient control system for the hazardous waste management area,
- the ground water recovered during corrective action of solid waste management units,
- waste wood treating oily sludge recovered from the ground water as part of treatment that occurs in the NPDES permitted on-site treatment system, and
- waste generated during treatment of the recovered ground water prior to NPDES discharge.

Recovered ground water is pumped automatically to the on-site water treatment system where it is treated and either used as injection water or discharged under CFI's NPDES permit for the Mobile facility.

At some point CFI will generate oily sludges and quantities of spent activated carbon from the treatment of the ground water prior to discharge. All waste generated at the site is handled and disposed according to state and federal requirements.

2.0 PARAMETERS AND FREQUENCY

The waste streams at the CFI Mobile facility do not require regular disposal at off-site facilities and thus characterization on a defined schedule is not relevant. The recovered ground water at the facility is characterized semi-annually as part of the ground water corrective action program. Other waste that is generated, for example from the water treatment system, will assumed to be hazardous until proven otherwise by testing.

Waste that is generated will be tested for the organic constituents of K001 waste. K001 is the only waste that was previously managed at the facility and can be easily analyzed using EPA

approved or equivalent analytical methods. All waste streams will be analyzed for Table C-1 parameters plus any additional parameters that might be required of the disposal facility.

Samples are collected prior to shipment of any wastes off-site. If multiple shipments are required annual characterization of the waste stream will be conducted. The sampling procedure described herein will be implemented throughout the duration of the post-closure period.

3.0 EQUIPMENT INVENTORY

An equipment inventory is conducted prior to sampling to ensure the availability of adequate sampling supplies. A sampling equipment checklist is provided in Table C-2. Immediately prior to each sampling event, the following procedures are undertaken:

- Sampling equipment that will come in contact with the sample is washed throughly with a laboratory detergent and rinsed thoroughly with distilled water.

- Sample containers are cleaned by the laboratory and the appropriate preservative is added according to the requirements listed in the section of this plan titled "Sample Preservation and Shipment."

4.0 SAMPLE COLLECTION

Most samples will be grab samples; however, sometimes a composite sample may be required. Composite samples will be collected by filling two (2) one liter sample containers with (8) eight equal portions of liquid, collected over a continuous eight (8) hour period. Sample containers are completely filled and sealed. Extreme care should be taken to avoid agitation of the sample during the transfer.

Immediately following collection, all samples are placed in ice chests containing ice or ice packs and shipped immediately to the off-site contract laboratory. Any ice chests to be shipped off-site are strapped with packing tape to prevent opening during shipment, and are properly addressed and identified using approved chain-of-custody procedures.

5.0 SAMPLE PRESERVATION AND SHIPMENT

Table C-3 presents container and preservation requirements which are followed. All sample containers are precleaned by the contract laboratory. The laboratory also adds the appropriate preservatives, if required. Exposure of samples to excessive heat or sunlight in the field is minimized. The samples are placed in ice chests following collection and are delivered to the laboratory via overnight courier. Prior to analysis, samples are refrigerated at 4° C during laboratory storage.

6.0 ANALYSIS

Samples are analyzed for the parameters listed in Table C-1 plus any additional parameters requested by the off-site disposal facility. The laboratory analytical methods that are used are EPA Methods 3510 and 8270 (SW-846). All methods are EPA approved and are implemented with appropriate quality control. The samples are analyzed within the holding times specified in Table C-3. All organic analysis are performed by an off-site laboratory. CFI has an ongoing contract with Micro-Methods Laboratory located in Ocean Springs, Mississippi. Laboratory QA/QC documentation is included as Exhibit E-1.

7.0 RECORDKEEPING

Persons involved in sample collection and off-site laboratory analysis document the handling history of all samples. The recordkeeping procedure documents sample integrity from the time of sample collection, through analysis, and final disposition.

8.0 SAMPLE LABELS

Sample labels are necessary to prevent misidentification of the samples. The labels are prefixed to the sample containers. The labels are filled out at the time of sample collection. The labels include the following information:

1. Sample Number
2. Name of Collector
3. Date and Time of Collection
4. Place of Collection

An example of labels typically used is included as Exhibit E-2.

9.0 CHAIN-OF-CUSTODY

The sampler completes Chain-of-Custody forms to establish the documentation necessary to trace sample possession from the time of collection to analysis and final disposal. CFI's Chain-of-Custody form is shown as Exhibit E-3.

TABLES

TABLE C-1
HAZARDOUS CONSTITUENTS OF K001 WASTES

Pentachlorophenol
Phenol
2-Chlorophenol
p-chloro-m-cresol
2, 4-dimethylphenyl
2, 4-dinitrophenol
Trichlorophenols
Tetrachlorophenols
Creosote
Chrysene
Napthalane
Fluoranthene
Benzo (b) Fluoranthene
Benzo (a) pyrene
Ideno (1,2,3-cd) pyrene
Benzo (a) anthracene
Dibenzo (a) anthracene
Acenapthalene

Source: ADEM Admin Code 335-14-2, Appendix VII

TABLE C-2
SAMPLING EQUIPMENT CHECKLIST

EQUIPMENT

Weighted bottle sampler or equivalent device

Weighted steel surveying tape

Thermometer

Two (2) sample containers

Miscellaneous Items

Distilled water

Wash bottle

Plastic sheeting

Ice Chest

Ice

Sampling labels

Sampling form

Pen

Chain-of-Custody form

Overnight courier charge number

TABLE C-3
SAMPLE CONTAINER LIST AND PRESERVATIVES
Cavenham Forest Industries Inc.
Mobile, Alabama

Container	Parameters	Preservatives
(1) 500 ml plastic or glass	pH Specific Conductance Chloride	Cool, 4°C
(2) 1000 ml amber glass	Semi-Volatile Parameters	Cool, 4°C
(2) 40 ml VOA vials	Volatile Organic Parameters	Cool, 4°C (7 day holding time) or Hydrochloric acid (14 day holding time)
(1) 500 ml plastic or glass	Metal Parameters	HNO_3

EXHIBITS

EXHIBIT C-1

LABORATORY QUALITY ASSURANCE MANUAL

Issue Date: 7/2/01	Technical Document Change Notice	DCN: 106
Approved by: HPH/TJW		Date Revised: 7/2/01
Implementation Date: 7/2/01		Revision: 1

Micro Methods Laboratory, Inc.
Technical Document Change Notice

Date 07-18-11
TDCN no. 071811-01
Effective Date 07-18-11

_____ Method
__✓__ Quality Assurance Manual Rev 13
_____ Quality Management Plan
_____ Other Document Type

Document Title: Quality Assurance Manual Rev 13
Change requested by: DKW / QAO
Change from: Current QAM Format Addressed 2003 NELAC Standards - Old/outdated Organizational Chart in place.

Change to: Format QAM and Address the 2009 TNI Standards using TNI Template - Replace/update Organizational Chart - other changes

Reason for Change: Change required by TNI to maintain TNI/NELAP/ELAP Accreditation

Comments: Rev 13 QAM is currently in revision but remains in effect until formatting changes to meet 2009 Standards are completed

Approved By:

Henry P. Howard 7-18-11
Lab Director Date

[signature] 07-18-11
QAO Date

Distributions:

[signature] 7-18-11
Organics Date

[signature] 7-18-11
Inorganics Date

_____ /
Management Date

_____ /
Other Department Date

Controlled Document

Issue Date: 7/2/01	**Technical Document Change Notice**	DCN: 106
Approved by: HPH/TJW		Date Revised: 7/2/01
Implementation Date: 7/2/01		Revision: 1

Micro Methods Laboratory, Inc.
Technical Document Change Notice

Date 06-02-11
TDCN no. 060211-01
Effective Date 06-02-11

_____ **Method**
__✓__ **Quality Assurance Manual** DCN: 065 REV 13
_____ **Quality Management Plan**
_____ **Other Document Type**

Document Title: QUALITY ASSURANCE MANUAL
Change requested by: JL / QAO
Change from: EXTENDING ANNUAL REVIEW time period REQUIREMENT UNTIL AFTER NELAP/CELAP AUDIT SCHEDULED 06-13-11 - 06-16-11

Change to:

Reason for Change: TO INCLUDE INPUT / CORRECTIONS from AUDIT, FOR MANAGEMENT ORGANIZATION CHANGES, FOR POSSIBLE CHANGES IN SOME OPERATIONS, to remove REDUNDANCIES, etc.. REVISION to follow.
Comments: THIS DOCUMENT IS CURRENTLY UNDER REVIEW by QAO AND IS STILL IN EFFECT

Approved By:

Harry P. Howell 6-2-11
Lab Director Date

[signature] 06-02-11
QAO Date

Distributions:

[signature] 06/02/11
InOrganics Date

[signature] 06-02-11
Inorganics TM Date

_____ /
Management Date

_____ /
Other Department Date

Controlled Document

Quality Assurance Manual

Micro Methods Laboratory
6500 Sunplex Drive
Ocean Springs, MS 39564
(228-875-6420)

Harry P. Howell 11/30/10
Harry P. Howell *Date*
Laboratory Director, Owner

Darrell V. Harris 11/30/10
Darrell V. Harris *Date*
Technical Director,
Quality Assurance Officer,
Ethics and Compliance Officer,
LIMS Administrator

Teresa Meins 11/30/10
Teresa Meins *Date*
Organic Supervisor

Barbara McMillian 11/30/10
Barbara McMillian *Date*
Inorganic Laboratory Supervisor
Field Services Coordinator

Tina P. Tomek 1-30-10
Tina P. Tomek *Date*
Office Manager, Document Control Officer

Charles D. Bingham 11/30/10
Charles D. Bingham *Date*
Safety Officer, Industrial Hygienist

Issue Date: 1/30/10
Revision 13
DCN: 065

This Quality Assurance Manual has been reviewed by the approved signatories listed above and is suitable for use by all Micro Methods Laboratory personnel effective not to exceed one year from the Date of Issue. The Quality System shall be reviewed annually at minimum with updates and revisions to this document as required.

Controlled Document

MICRO METHODS LABORATORY

Ethics Policy

It shall be the policy of Micro Methods Laboratory staff to conduct all operations with integrity and in an ethical manner. All Micro Methods Laboratory staff within the limits of their authority and duties is responsible for fostering and enforcement of laws, regulations and other directives, for maintaining the highest standards of ethical conduct, for promoting efficiency and effectiveness in administering of management's programs and activities in all laboratory operations.

Controlled Document

Table of Contents

1.0 INTRODUCTION 9
1.1 Purpose 9
1.2 Mission Statement 10
2.0 MANAGEMENT AND ORGANIZATION 11
2.1 The Quality Organization 11
2.2 Physical Facilities, Legal Definition, and Facility Tour Policy 11
2.3 Resource Allocations for QA/QC Laboratory Operations 12
2.4 Management of the Quality Control Program and Laboratory 12
2.5 Quality Organizational Chart 13
2.6 Quality AssuranceOfficer and Authority 15
2.7 Ethics and Compliance Officer Duties and Responsibilities 17
2.8 Lab Director/Technical Director Duties and Responsibilities 17
2.9 Lab Supervisors and Technical Staff Duties and Responsibilities 18
2.10 Analysts/Chemists and Analysts/Technicians Duties and Responsibilities 18
2.11 Reporting Relationship of QAO and Management. 20
2.12 Understanding, Communicating, and Implementing the Quality System. 20
2.13 Change of Ownership and/or Location of Micro Methods Laboratory 21
2.14 Laboratory Security Policy 21
3.0 QUALITY SYSTEM AND DESCRIPTION 22
3.1 Purpose of the Quality System 22
3.2 Data Quality Objectives (DQO). 23
3.3 Quality Assurance Project Plans (QAPPs). 23
3.4 Standard Operating Procedures (SOPs). 24
3.5 Data Quality Assessments 28
3.6 Identification of Activities to which QA/QC is applied 29
3.7 Quality Assurance Manual 29
4.0 STATEMENT OF QUALITY POLICIES 31
4.1 Policy on Ethics and Fraud in the Laboratory 31
4.2 Code of Ethics 32
4.3 Statement of Laboratory Quality Policy 33
4.4 Quality Goals 34
4.5 Quality Objectives 34
4.6 Operations Policy 35
4.6.1.1 Safety Policy 35
4.6.1.2 Data Integrity and Laboratory Ethics Policy 35
4.6.1.3 Quality Policy 37
4.6.1.4 Service Policy 38
4.7 Progressive Discipline Policy 39
4.8 Level of Quality Assurance 40

Controlled Document

4.9 Precision and Accuracy 40
4.9 Completeness 42
4.10 Representativeness 43
4.11 Comparability 44
4.12 Other Quality Objectives 45
4.9 45
4.13 Information Sensitivity Policy 45
4.14 Confidentiality and Proprietary Rights 46
4.15 Departures/Deviations from Documented Policies, Std. Specs, or Procedures 48
5.0 PERSONNEL QUALIFICATIONS AND TRAINING 49
5.1 Personnel Qualifications and Training Policy 49
5.2 Job Qualifications/Position Titles 50
5.3 On-the-Job Training and Certification 52
5.4 Mandatory Training 56
5.5 Training Frequency and Training Responsibilities 57
5.6 Training Records and Performance Documentation 58
5.7 Trainer Qualifications 58
5.8 Designing Specific Project Training Programs 59
5.9 Assessing Training Effectiveness 59
5.10 Required Reading 60
6.0 PROCUREMENT OF ITEMS AND SERVICES 60
6.1 Purchasing 60
6.2 Approved Vendor Selection/Subcontracting Analytical Services 61
6.3 Changes to Procurement Documentation 62
6.4 Control of Incoming Material and Standards 62
7.0 DOCUMENTS AND RECORDS 64
7.1 Definitions of Document and Record 64
7.2 Document Life Cycle/Document Revisions 64
7.3 Identifying Quality Related Documents and Records Requiring Control 64
7.4 Controlled Document Handling/Record Maintenance 66
7.5 Use and Maintenance of Laboratory Notebooks 67
7.6 Technical Guidance Documents 69
7.7 E-Data 69
7.8 Logbook Maintenance and Archival 70
7.9 Sample Delivery Group File Organization, Preparation, and Review 70
7.10 Compliance Assurance 71
7.11 Technical Document Change Notice Form 72
8.0 COMPUTER HARDWARE, SOFTWARE, and INFORMATION POLICIES 73
8.1 Laboratory Information Management 73
8.2 Personnel Responsibilities LIMS 74
8.3 Quality Assurance Responsibilities / LIMS 74

Controlled Document

8.4 LIMS Raw Data 75
8.5 Software 75
8.6 Password Policy 76
8.7 Anti-Virus Policy 77
8.8 Email Policy 77
8.9 LIMS Security 79
8.10 Hardware 80
8.11 Comprehensive Testing 81
8.12 Record Retention 81
8.13 Facilities 81
8.14 Standard Operating Procedures for the LIMS Data 81
9.0 PLANNING 82
9.1 Customer Identification 82
9.2 Defining Customer Needs and Requirements 82
9.3 Introducing New Methods/Lab Developed Methods for Laboratory Use 84
9.4 Producing the Desired Data Deliverable 86
9.5 Quality System and Technical Activities Coordination 86
9.6 Work Sequence 87
9.4 Deviations from any initial work plan must be in writing and approved and authorized by the Project Director and the 87
9.7 Defining the Level of Quality Control 87
9.8 Contract Policy 87
10.0 IMPLEMENTATION OF WORK PROCESSES 88
10.1 Implementation of Work Plans and QAPPs 88
10.2 Work Implementation Process 88
10.3 Controlling Planned Procedures 89
10.4 Development of Operating Procedures 90
11.0 ASSESSMENTAND RESPONSE 91
11.1 Assessments 91
11.2 Management Systems Reviews (MSRs) 93
11.3 Surveillance 93
11.4 Laboratory Audits 94
11.5 Performance Evaluations 95
11.6 Data Quality Audits 96
11.7 Peer Reviews and Technical Reviews 98
11.8 Readiness Reviews 99
11.9 Complaint Resolution 100
11.9.1 Complaint Resolution Responsibility 100
11.9.2 Handling Minor Complaints 100
11.9.3 Handling Serious Complaints 101
11.9.4 Initiating Complaint Resolution 101

Controlled Document

11.9.5 Resolving the Complaint 102
11.9.6 File Copies 103
11.10 Data Quality Assessments 105
11.11 Response to Assessment Findings 105
12.0 QUALITY IMPROVEMENT 106
12.1 Responsibility 106
12.2 Problem Prevention and Minimization 106
12.3 Problem Prevention Tools 107
13.0 SAMPLING PROCEDURES 108
13.1 General Sampling Procedures 108
13.2 General Sampling Precautions 110
13.3 Sample Bottle Preparation 110
13.4 Field Records 111
13.5 Field Sample Identification 112
13.6 General Field Sample Collection Guidelines 113
13.7 General Safety Precautions 113
13.8 Volatile Organics Sample Collection 113
13.9 Soil/Sludge/Sediment/Solid Waste 115
13.10 Sample Collection for Semi-Volatiles, Pesticides/PCBs, and Herbicides) 115
13.11 Solid Samples 115
13.12 General Wet Chemistry 116
13.13 NIOSH Methods 116
13.14 Drinking Water Samples 116
13.15 Inorganic Analyses 116
13.16 Sample Transport 117
14.0 SAMPLE CUSTODY 117
14.1 Custody 117
14.2 Transfer of Custody and Shipment 118
14.3 Laboratory Sample Control Procedures 119
14.4 Sample Rejection Policy 121
14.5 Sample Refrigeration/Preservation 121
14.6 Sample Disposal Non-Hazardous 121
14.7 Sample Disposal Hazardous 123
14.8 Hazardous Waste Determination 123
14.9 Sample Holding Times 123
14.10 Sample Preservation, Holding Times, Container Type, and Amounts 125
14.10 Sample Preservation, Holding Times, Container Type, and Amounts –Section 2 127
14.10 Sample Preservation, Holding Times, Container Type, and Amounts - Section 3 129
14.10 Sample Preservation, Holding Times, Container Type, and Amounts – Section 4 131
14.10 Sample Preservation, Holding Times, Container Type, and Amounts –Section 5 132
15.0 ANALYTICAL PROCEDURES 135

Controlled Document

15.1 Use of Approved Methodology 135
15.2 List of Approved Methods 136
15.3 Analytical Methods/Standard Operating Procedures 142
15.4 Instrument Calibrations General Guidelines 144
15.5 Laboratory Instrument Calibrations 147
15.5.1 Thermometers 147
15.5.2 Balance Calibration 147
15.5.3 Metals General Guidelines 148
15.5.4 Atomic Absorption (GFAA and FLAA) 148
15.5.5 Inductively Coupled Plasma-Atomic Emission (ICP) 148
15.5.6 General Laboratory Instrumentation—ION Chromatography (IC) 149
15.5.7 Ultraviolet-Visible Spectrophotometer (UV-VIS) 150
15.5.8 pH Meters 150
15.5.9 Bomb Calorimeter 150
15.5.10 Support Equipment/Environmental Controls 150
15.5.11 Conductivity Meters 152
15.5.12 Total Organic Carbon Analyzer (TOC) 152
15.5.13 Dissolved Oxygen Meter 152
15.5.14 Gas Chromatography and Mass Spectrometry 152
15.6 Standard Preparation 157
15.7 Preparation of Standards from Neat High Purity Stock Material 158
15.8 Purchase of Standard Solutions 160
15.9 Documentation of the Verification and Preparation of Chemical Standards 160
15.10 Standard Traceability 160
15.11 Measurement Traceability 161
15.12 Uncertainty of Measurement 161
15.13 Laboratory Consumables 163
15.14 Receipt and Review of Analysis Request 164
15.15 Solvent, Reagent, and Adsorbent Check Analysis 164
15.16 List of Analytical Equipment in Service 165
15.17 General Housekeeping 166
16.0 PREVENTIVE MAINTENANCE 167
16.1 Preventive Maintenance Program 167
16.2 Instrument Startup for New Instruments, New Operators, or RM Changes 168
16.3 Preventive Maintenance Schedule 168
16.4 Equipment Failure/Natural Disaster Contingency Plan 169
16.5 Preventive Maintenance Activities 172
16.6 Instrument Maintenance Log Books 178
17.0 QUALITY CONTROL CHECKS AND ROUTINES TO ASSESS PRECISION AND ACCURACY AND METHOD DETECTION LIMIT CALCULATIONS 179
17.1 Field Quality Control Sampling Requirements 179

Controlled Document

17.2 Pre-cleaned Equipment Blank 179
17.3 Field Cleaned Equipment Blank 179
17.4 Trip Blank 179
17.5 Field Duplicates 180
17.6 Split Samples 180
17.7 Quality Control on Field Measurements 181
17.8 Laboratory Quality Control Checks—General/ Analytical Batch Definition 182
17.9 Laboratory Quality Control Indicators 182
17.9.1 Method Blank 182
17.9.2 Surrogate Spikes 183
17.9.3 Matrix Spikes (MS) 184
17.9.4 Matrix spike duplicates (MSD) 185
17.9.5 Sample Duplicate Analysis (Matrix Duplicate Analysis) 185
17.9.6 Lab Control Sample (LCS) 186
17.9.7 Lab Control Sample Duplicates (LCSD) 188
17.9.8 Quality Control Check Standard 188
17.9.9 Solvent and Reagent Purity Checks 188
17.9.10 Adsorbent Checks 189
17.10 Spiking Procedures 189
17.11 Sample Re-extraction/Re-analysis 190
17.12 Inorganics and Wet Chemistry QC Checks 191
17.13 Microbiology 191
17.14 Assessing Precision and Accuracy and Setting Acceptance Limits 192
17.15 Method Detection Limits, PQLs/EQLs, and Reporting Limits 193
17.16 Disclaimer 194
17.17 Required MDL Documentation 194
17.18 MDL Study Documentation Requirements 195
17.19 Selectivity 195
18.0 DATA COLLECTION, REDUCTION, VALIDATION, AND REPORTING 197
18.1 Data Collection 197
18.2 Manual Data Reduction 198
18.3 Computer/Integrator Reduction 199
18.4 Manual Chromatographic Peak Integration 200
18.5 Formulae and Calculations 200
18.6 Summary of Equations Used in Calculations 201
18.7 Data Transfer to LIMS or Computer Programs 205
18.8 Validation Documentation Checklists 205
18.8.1 Data Review 205
18.9 Data Integrity 208
18.10 Data Validation 211
18.11 Data Reporting 213

Controlled Document

18.11.1 Data Qualifier Codes (Data Flags) 213
18.11.2 Laboratory Data Reports 219
18.12 Final Report Authorization 222
19.0 NON-CONFORMANCE AND CORRECTIVE ACTION 223
19.1 Definition of Non-Conformance 223
19.2 Corrective Action Process 223
19.3 Quality Control Measures and Acceptance Criteria 224
19.4 Identifying and Assessing QC Measures (Responsibility Designation) 224
19.5 Determining the Source of QC Problems 225
19.6 Initiating Corrective Action 226
19.7 Documentation and Notification of Affected Parties 226
19.8 Corrective Actions from External Sources 227
19.9 Correcting Transcription Errors 227
19.10 Correcting Errors in the LIMS 228
19.11 QC Corrective Action Report Form 229
19.12 Nonconformance Event Review Report 230
19.13 Corrective Action Request Form 231
19.14 Routine Corrective Actions 232
19.14.1 Acceptance Criteria and Corrective Actions for Quality Control Checks 232
19.14.2 Probable Sources and Expected Corrective Actions 234
20.0 QUALITY ASSURANCE REPORTS TO MANAGEMENT 241
21.0 REFERENCES 243
22.0 TABLES OF QUALITY OBJECTIVES 244
22.1 EPA Method 602 Purgeables Aromatics by GC 244
22.2 EPA Method 608 Organochlorine Pesticides/PCB/s by GC 245
22.3 EPA Method 624 Purgeables Organics by GCMS 247
22.4 EPA Method 625 Semi-Volatile Organics by GCMS 250
22.5 EPA Method 602 Purgeable Aromatics by GC 254
22.6 EPA Method 608 Organochlorine Pesticides/PCB's by GC 255
22.7 EPA Method 624 Purgeable Organics by GCMS 256
22.8 EPA Method 625 Semi Volatile Organics by GCMS 257
22.9 Quality Assurance Objectives for Inorganics 259
22.10 ADDENDUM A –Manual for the Certification of Laboratories Analyzing Drinking Water 264

1.0 INTRODUCTION

1.1 Purpose

Controlled Document

1.1.1 This document formally defines the quality system requirements for National Environmental Laboratory Accreditation Program (NELAP)/Louisiana Environmental Laboratory Accreditation Program (LELAP) requiring that quality assurance and control procedures shall be delineated in a Quality Manual and followed to ensure and document the quality of the analytical data. The intent of this manual is to establish a system of quality procedures applicable to environmental processes, consistent and compliant with EPA, LELAP and NELAP standards. This Document is based on the standard requirements established in ISO/IEC Guide 25, ISO/IEC 17025, 2003 NELAC Standard, LAC Title 33, and ANSI/ASQC E4-1994 and is compliant with ISO 9001 and ISO 9002. Management and technical staff of Micro-Methods Laboratory Inc. are dedicated to continuous improvement of the analytical and measurement system in place and strive to provide our clientele with credible, useable, defensible data of known quality. For data quality purposes, Micro-Methods accepts and aligns its structure to conform to the standards set forth by these agencies. All Micro-Methods Laboratory sections and employees are subject to the standards published in this Quality Manual. It is the policy of Micro Methods Laboratory that all employees follow the Quality Manual requirements, Standard Operating Procedures, and other associated quality documents. This document and all supporting quality documentation related to quality policies and requirements are available for use by laboratory employees.

1.1.2 This manual and the quality control protocols described in this document are not to be viewed as all inclusive, but rather to serve as a basic foundation on which to continually build a solid quality assurance program within the laboratory. The design and development of the quality system is primarily a function of management, although each employee has the responsibility for acquiring and maintaining knowledge of the quality system operations. In addition, each employee is responsible for following the established quality system procedures and the requirements of the NELAP/LELAP standards.

1.2 Mission Statement

1.2.1 *Micro-Methods is committed to providing our clientele with a quality data product to meet or exceed their data requirements in terms of cost, quality, and delivery. We continually strive to improve in these areas, while maintaining a work environment conducive to ethical work practices.*

Controlled Document

2.0 MANAGEMENT AND ORGANIZATION

2.1 The Quality Organization

2.1.1 Organization

2.1.1.1 The following is a listing of the approved signatories for the laboratory and their job titles:

Harry P. Howell	Owner, Lab Director
Darrell V. Harris	Technical Director /QAO
Barbara Kelly McMillian	Inorganic Supervisor
Tina Tomek	Office Manager

2.2 Physical Facilities, Legal Definition, and Facility Tour Policy

2.2.1 **Legal Definition of the Laboratory--**Micro-Methods Laboratory, Inc. is by definition an "entity that performs analytical testing" and assumes the associated legal liabilities and responsibilities of the analytical operations performed at this facility by Micro Methods Laboratory staff. Micro-Methods was founded in 1972 and is permanently located at 6500 Sunplex Drive, Ocean Springs, Mississippi. The laboratory has over 10,000 square feet of space, with adequate lighting, power, equipment, and resources to perform analytical testing. Micro-Methods employs a competent, experienced staff with adequate supervisory personnel to analyst/technician ratio.

2.2.2 The laboratory has 10,000 square feet of space under roof. The following areas exist within the lab:

1) Extractions Lab
2) Metals Lab
3) Organics Lab
    a. Semi-Volatile Lab
    b. Volatiles Lab
4) Inorganic or Wet Lab
5) Office Area
6) Micro Lab

Controlled Document

2.2.3 Walls and doors separate each area. The Volatiles lab is in a room outside of the main laboratory to minimize contamination to the area. There is adequate hood space for the areas with minimum face velocity at 100ft/min monitored at least annually.

2.2.4 Access is controlled to the Volatiles Lab. Analysts from the Extractions Lab and other Labs are not allowed in the Volatiles Lab if they have been working with solvents or have been in a lab where solvents were used.

2.2.5 Volatiles Lab analysts are not allowed in the Extraction Lab.

2.2.6 Access to the Micro Lab is limited to Wet Lab personnel unless work requires.

2.2.7 Access to the main Sample Storage Cooler is limited to the Sample Custodian and Lab Management.

2.2.8 It is the policy of Micro Methods Laboratory that all tour groups or individuals must be accompanied at all times by at least one Micro Methods staff person. All visitors are required to wear safety glasses in the laboratory area, but no safety glasses are required in the office and break areas. Visitors must follow all safety rules and regulations pertaining to the laboratory. Tour requests must be scheduled through the Office Manager and approved by the Lab Director.

2.3 Resource Allocations for QA/QC Laboratory Operations

2.3.1 Management has incorporated the cost of quality control into the cost of the analyses. In most cases, the burden of the cost for quality control is shared between the client and the laboratory. Adequate resources and trained personnel are provided to carry out the quality procedures and all laboratory operations. A staff comprised of members independent of those involved in the actual testing shall perform system audits.

2.4 Management of the Quality Control Program and Laboratory

2.4.1 Management of the laboratory is the responsibility of senior management officials, the President and the Vice-President. Their ultimate authority extends to all aspects of the organization and has final decision-making power at all levels. Their duties include, but are not limited to:

1) Ensure that quality management is an identified activity with adequate resources to accomplish its program quality goals.
2) Ensure that all laboratory components and programs comply fully with the quality system.
3) Perform all quality management roles and responsibilities assigned to them in their organization or area.
4) Assume a primary contact role with clients.

Controlled Document

5) Maintain good client-laboratory relations with clients.
6) Provide work environment conducive to good work ethics, free from any undue pressures, which might adversely affect the quality of work or technical judgment.
7) Provide motivation and incentives to promote good data output.
8) Define the minimal level of qualification, experience, and skills necessary for all positions in the laboratory.
9) Ensure that a quality data product is produced.
10) All analytical operations and testing shall be performed to the extent possible in such a manner as to meet the requirements of the NELAC/LELAC Standards.
11) Shall be impartial

2.4.2 Management of the Quality Assurance Program as described in this manual requires the services of the Quality Assurance Officer AO within the laboratory to carry out the monitoring, record-keeping, statistical techniques, calibration scheduling, and other functions required by the system. The QAO is not actively involved in the analytical testing, but is responsible for data review with respect to quality and compilation of QC data and reporting to Management. The AO acts as an intermediary between Technical Staff and Management with respect to quality. In the event that the QAO is unable to perform his/her duties for short periods of time, the Organics Lab Supervisor and the Inorganic Lab Supervisor shall act as designees with their sections to perform the duties of the QAO until such time as the QAO is able to resume his/her duties. If the QAO is unable is absent for 90 days or greater, Kallie Lunsford will assume duties of QAO.

2.5 Quality Organizational Chart

2.5.1 The Organizational Chart of Micro-Methods illustrates the chain of command. (See Figure 1. below).

Controlled Document

Micro-Methods Laboratory Organization Chart

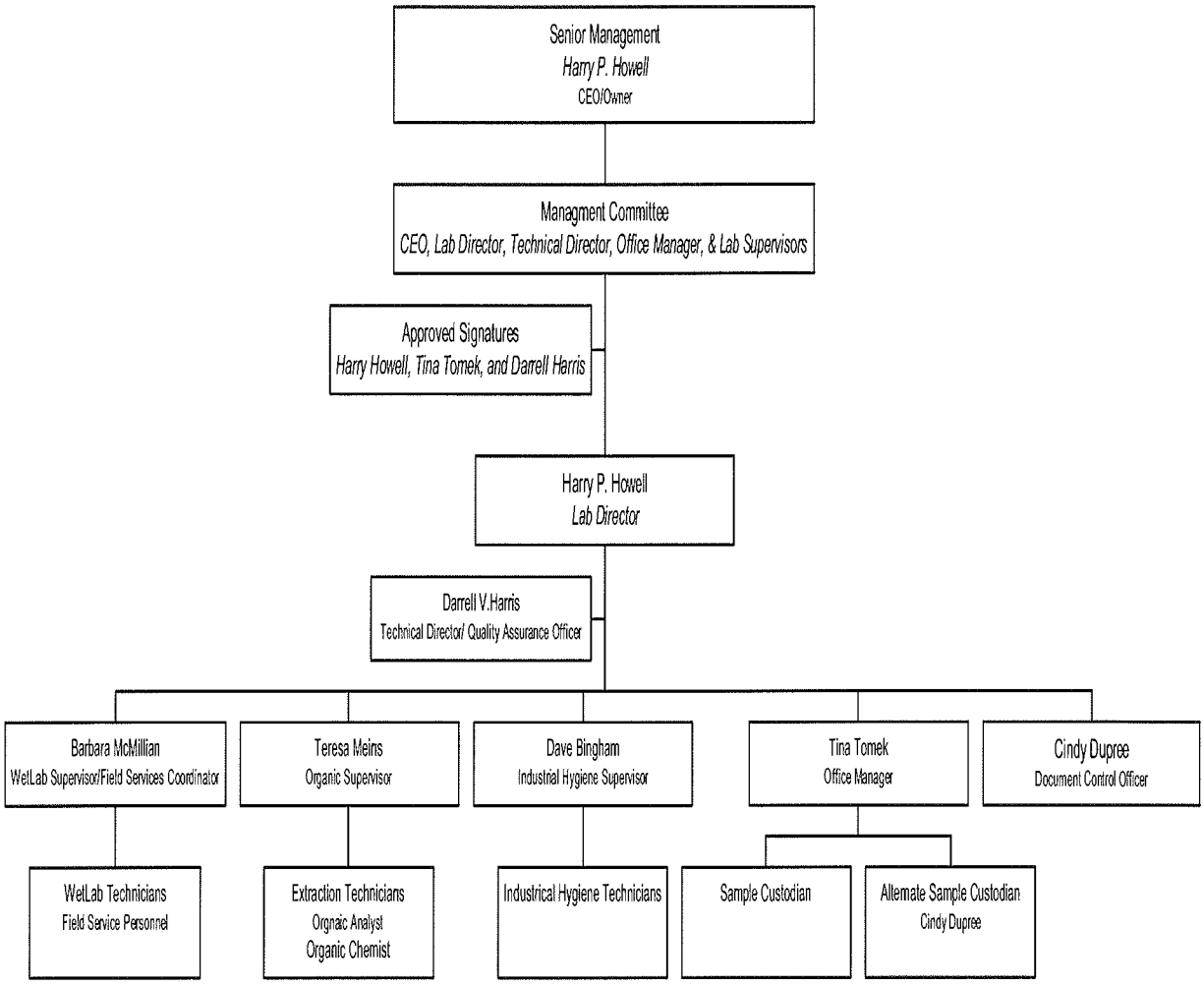


Figure 1 Micro-Methods Laboratory Organization Chart

Controlled Document

2.5.2 The QAO has direct access to the highest level of Management at which decisions are taken on laboratory policy or resources, with access to Lab Director and the technical staff. The lines of communication follow the directives in normal chain of command protocol. Communication can flow upward and downward. Open lines of communication are necessary for the input into all phases of planning, implementing, and assessing the environmental programs to which the quality system is applied. Accountability and authority is equal at each level and follows the regular chain of command protocol.

2.6 Quality AssuranceOfficer Responsibilities and Authority

2.6.1 The QAO is responsible for the Quality Assurance Program within the organization.

2.6.2 The QAO shall recommend measures to ensure fulfillment of the quality objectives and policies established in conjunction with Management, in an expedient, effective manner.

2.6.3 The QAO shall set quality guidelines based on method requirements or laboratory requirements, whichever is more stringent or creates a more defensible data package.

2.6.4 The QAO develops and carries out quality control programs, advises, and assists technical staff in implementing, staffing, and supervising these programs.

2.6.5 The QAO reviews new technology, methods, equipment, and advises management as to such use with respect to quality.

2.6.6 The QAO coordinates schedules for measurement systems, functional checks, calibrations, and other checking procedures based on method requirements and instrument manufacturer requirements.

2.6.7 The QAO develops the system used to control sample measurement; advises technical staff in selection of suitable samples and prepares samples as delegated by Management for internal performance evaluations.

2.6.8 The QAO evaluates data quality, maintains reports, control charts, calibration records, and other pertinent performance records.

2.6.9 The QAO coordinates and conducts quality problem investigations and reports to Management.

Controlled Document

2.6.10 The QAO advises and trains staff in matters of quality assurance.

2.6.11 The QAO reviews work proposals for quality assurance aspects.

2.6.12 The QAO serves as the Micro-Methods quality assurance representative for mandated QA/QC programs.

2.6.13 The QAO serves as the primary contact for external source audits.

2.6.14 The QAO is responsible for writing, editing, and maintaining the Quality Assurance Manual for the laboratory. The QAO shall review the QAM at least annually, revise, approve by signature on the Title Page of the QAM, and issue the revision.

2.6.15 The QAO shall maintain a list of approved signatories responsible for signing or authorizing any laboratory record.

2.6.16 The QAO is responsible for ensuring that the Quality System is implemented and followed at all times.

2.6.17 The QAO shall serve as the focal point for QA/QC activities and shall be responsible for the oversight and/or review of quality control data.

2.6.18 The QAO (and/or his/her designees) have functions independent from laboratory operations for which they have quality assurance oversight.

2.6.19 The QAO shall be able to evaluate data objectively and perform assessments without outside (e.g., managerial) influence.

2.6.20 The QAO shall be knowledgeable in the quality system as defined under NELAC and LAC requirements, as well as any other accrediting, certification program, or standards requirements (e.g. ISO/DIS 17025).

2.6.21 The QAO shall immediately notify the Lab Director when deficiencies in the Quality System are found (following audits).

Controlled Document

2.7 Ethics and Compliance Officer Duties and Responsibilities

2.7.1 It is the responsibility of the Ethics and Compliance Officer (ECO) and the Management Committee to establish policies and procedures that are conducive to creating an ethical work culture for all laboratory operations.

2.7.2 The ECO is responsible for writing and implementing standard operating procedures related to ethical laboratory operations and procedures concerning data integrity.

2.7.3 The ECO is the laboratory point of contact for ethical issues from both internal and external sources.

2.7.4 It is the responsibility of the ECO supported by the Management Committee to initially train laboratory staff within the first month of employment and annually thereafter on content, meaning, interpretation, and application of the Ethics Policy and Data Integrity Policy.

2.7.5 It is the responsibility of the ECO to initiate and maintain Ethics and Data Integrity Training Documentation in the employees Quality Training files.

2.7.6 It is the responsibility to store and maintain the documentation for a minimum of 10 years.

2.8 Lab Director/Technical Director Duties and Responsibilities

2.8.1 The Technical Staff is under the supervision of a Laboratory Director who has overall responsibility for the technical operations of the laboratory. The Laboratory Director shall oversee all the daily operations of the laboratory, review all final reports, accept reports and recommendations from the QAO, establish client relations, represent the laboratory in business and legal matters, establish guidelines for efficient operation and advise in all business and technical matters, understand limitations on the measurements and discuss them with clients as appropriate.

2.8.2 The Laboratory Director and Technical Director/QAO provide limits of uncertainty of all data reported, including that due to sample and to measurement supported by statistical inference and professional judgment as pertinent; state clearly the bias for any interpretations provided of the data.

2.8.3 In the event that the Laboratory Director is unable to perform his/her duties, the Technical Director/QAO shall assume the overall responsibility for the technical operations of the laboratory and the office manager shall assume the overall responsibility for the business operations.

2.8.4 In the event that the Technical Director/QAO is unable to perform his/her duties for a period greater than 65 days, the Laboratory Director will assume the duties of Technical Director and Ethics Control Officer, Kallie Lunsford will assume QAO

Controlled Document

responsibilities, and Dave Bingham will assume LIMS/IT administrative responsibilities.

2.9 Lab Supervisors and Technical Staff Duties and Responsibilities

2.9.1 Inorganic Lab Supervisors report to the Lab Director. Organic Lab Supervisor reports to the Technical Director.

2.9.2 Responsible for day-to-day operation of the lab section they oversee.

2.9.3 Responsible for producing valid, accurate data from the raw data gathered from the analyses.

2.9.4 Shall guide, direct, and train each employee under his/her supervision.

2.9.5 Shall act as an intermediary between employees and the Lab Director and Technical Director. Shall maintain a professional working relationship with those under his/her supervision.

2.9.6 Shall verify methods; write SOPs, set up new instruments and computers, check all raw data for errors, review and authorized data for final reporting.

2.9.7 Shall direct the QA/QC program in the temporary absence of the QAO. A temporary absence is defined as less than a 90 day period.

2.9.8 Shall supervise no more than ten analysts and or technicians in order to ensure an optimum supervisor to analyst ratio.

2.10 Analysts/Chemists and Analysts/Technicians Duties and Responsibilities

2.10.1 Report directly and under the supervision of the Lab Supervisors of the area to which they are assigned.

2.10.2 Acquire full understanding and develop technical competence in every area of the position or job.

2.10.3 Comprehend, to the extent possible, all problems for which analytical services are required. Ascertain the validity of the method selected. Understand limitations on the measurements.

2.10.4 Use validated methods or written procedures exclusively.

2.10.5 Demonstrate statistical control of the analytical system before measurements are made.

Controlled Document

2.10.6 Calibrate according to method requirements and engage in inter-calibration activities as appropriate to minimize internal laboratory bias.
2.10.7 Utilize documented procedures and record all significant experimental details in such a way that a competent analyst could reproduce the measurements at a later date.
2.10.8 Utilize recognized Good Laboratory Practices and Good Measurement Practices throughout all aspects of sampling and measurement processes.
2.10.9 Provide limits of uncertainty of all data reported, including that due to sample and to measurement supported by statistical inference.
2.10.10 Confirm the qualitative identification of parameters measured and provide supporting evidence.
2.10.11 Retain all sample data, and documentary evidence for a minimum of 10 years.

Controlled Document

2.11 Reporting Relationship of QAO and Management

2.11.1 The QAO shall report directly to Management in all matters concerning data quality or quality performance, including problems related to routine quality matters.

2.11.2 All technical management staff shall receive copies of written reports (internal or external audits, changes to SOPs, or any change affecting quality of data or lab procedures) generated by the QAO. Management shall make recommendations based on input from the Laboratory Director, QAO and technical staff.

2.11.3 The QAO position is an independent job entity solely under the direction of Management with reporting lines directly to all sections of the lab. The QAO is independent of the analytical testing, separate from the lab sections that generate, compile and evaluate the data for release, but is responsible for data review for quality purposes and assessments of performance as required by the analytical methods and the quality system. It is the responsibility of the technical staff beginning with the supervisors and Lab Director to implement and continue the quality procedures at the lower levels. It is the responsibility of Management to implement and continue the quality policies at the upper levels. The QAO shall aid in making recommendations to each level regarding quality issues.

2.12 Understanding, Communicating, and Implementing the Quality System

2.12.1 Management shall form a project team, made up of the, the Chief Executive Officer, Office Manager, Laboratory Director, and the Technical Director/AO, called the Management Committee, whose function is to initially establish goals, objectives and groundwork for the quality system. They shall formulate a plan to schedule quality policy implementation.

2.12.2 After the Quality System policies and mission have been established, an operational team, comprised of the Technical Director/QAO, the Lab Director, the Inorganic Lab Supervisor and the Organic Lab Supervisor, shall begin implementation of the plan and shall monitor the performance of the Quality System through internal system audits.

2.12.3 All employees whose tasks affect the quality of data shall receive training for the specifics of the Quality System, which shall include and require reading the Quality Assurance Manual and shall document this activity using the Quality Documents Read form maintained in their personal QC Training file.

Controlled Document

2.12.4 Once the Quality System is operational, it is the responsibility of all employees to accept and follow its precepts, to provide feedback, to improve the quality system, and the quality of data.

2.13 Change of Ownership and/or Location of Micro Methods Laboratory

2.13.1 In order to ensure that clients' records shall be maintained in the event of changes in ownership, bankruptcy, out of business, or location of Micro Methods Laboratory the following guides shall be followed:

2.13.1.1.1 Changes in ownership or location shall be reported to all accrediting and regulating bodies. Clients shall be notified by mail or phone if the change affects the working relationship. The previous owner must agree in writing before ownership transfer to be accountable and liable for all analyses, data and reports generated up to the time of legal transfer of ownership occurs. The buyer must agree to be responsible for maintenance of the records after the ownership transfer.

2.13.1.1.2 The buyer must agree in writing to be accountable and liable for all analyses, data and reports generated after the legal transfer of ownership occurs. All records pertaining to accreditation are kept for a minimum of 10 years, subject to inspection by accrediting or regulating bodies.

2.13.2 In the event of bankruptcy, appropriate regulatory and state legal requirements concerning laboratory records shall be followed.

2.14 Laboratory Security Policy

2.14.1 This policy establishes the security requirements for this facility to ensure that confidential information, technologies, and lab operations are not compromised and that analytical services and other interests are protected from internal and external activities.

2.14.2 The following laboratory security measures are employed:

1) Doors between the main offices and the laboratory are closed and have signs posted restricting the entrance to employees and authorized persons only.
2) Outside exit doors are closed, locked or monitored at all times.
3) All employees are aware of the requirement to question and determine legitimacy of the presence of any stranger in the laboratory.

Controlled Document

4) Staff personnel must escort all deliveries through the laboratory.
5) Clients dropping off samples in the sample receiving area, then needing access to the main offices must be escorted through the laboratory.
6) The laboratory is equipped with motion, sensitive, heat sensitive, and glass breaking sensitive detectors.
7) The sample custodian locks the main sample storage area at the end of each workday unless after hours work is required. Then it is the responsibility of the supervisor or designee to lock the storage area.
8) All doors are locked and checked by the last person in the building.
9) The alarm system is armed by the last person in the building and disarmed by the first person in the building. Alarm codes and passwords are required.
10) Only authorized staff is allowed to have building keys.

2.14.3 The Lab Director, Office Manager, Lab Supervisors and the QAO are responsible for controlling lab access. Access to any lab section will only be granted by the Lab Director or one of the designees listed above. Access will only be granted to individuals with an immediate business need within the lab, either short-term or as defined by their ongoing job function. The Lab supervisors are responsible for monitoring the "Visitor List" to ensure that those who no longer require access to the laboratory have their access terminated.

3.0 QUALITY SYSTEM AND DESCRIPTION

3.1 Purpose of the Quality System

3.1.1 The purpose and intent of this document is to establish and formalize operational policies and procedures for all laboratory activities. This defined quality system is essential for insuring that the data products generated from the analytical processes are well defined, defensible, and useable.

3.1.2 The provisions of quality analytical services to our customers have earned Micro-Methods a solid reputation. Maintaining this status in providing quality services to our customers is the responsibility of every member of the laboratory staff. In order to accomplish this, the management of Micro-Methods has implemented a management system to document how this laboratory shall plan, implement, and access the effectiveness of quality assurance and quality control operations applied to the analytical procedures in use. The result of quality management is called the quality system. The Quality Assurance Manual is structured following the standards

Controlled Document

of ISO/DIS 17025 *General Requirements for the Competence of Testing and Calibration Laboratories*, consistent with requirements mandated by NELAC Chapter 5, LAC *Title 33,* and requirements defined by EPA for Quality Assurance Project Plans in EPA Requirements for Quality Assurance Project Plans (QA/R-5) (EPA 2001). Supporting documentation consists of Standard Operating Procedures and other Quality Related Documents and records that require document control.

3.2 Data Quality Objectives (DQO).

3.2.1 The Management Committee shall review DQO annually to determine their effectiveness to the Laboratory Quality System. Objectives shall be modified, added, or deleted to accomplish the changes to the system. The systematic approach outlined in the EPA document "Guidance for the DQO Process EPA QA/G-4" shall be adapted to aid in determining the changes to DQO. DQOs provide statements about the expectations and requirements of the data user (clients). DQOs are necessary to making decisions in the planning stages and shall be used as the basis for these decisions to the Laboratory's Quality System, as well as to specific project plans. The following lists the steps taken to establish DQOs:

1) State the problem
2) Identify the decision
3) Identify the inputs to the decision
4) Define the boundaries of the study
5) Develop a decision rule
6) Specify tolerable limits on decision errors
7) Optimize the design for obtaining data
8) Development of the DQOs is the joint responsibility of the Laboratory Director, QAO, technical staff and laboratory staff.

3.3 Quality Assurance Project Plans (QAPPs).

3.3.1 QAPP are the means of implementation of the requirements established by the DQOs. The QAPP translates the requirements into measurement performance specifications and QA/QC procedures for the laboratory to satisfy the data needs of the client. The supporting documentation completes the planning stage of the quality system. The routine planning and implementation of the laboratory quality system is documented in the Quality Assurance Manual. Other project specific plans shall be developed as required. The Laboratory shall use the EPA document, "EPA Guidance for Quality Assurance Project Plans, EPA QA/G-5" as the guide to establishing

Controlled Document

specific project plans. The Lab Director and QAO shall be responsible for writing, editing, and maintaining any specific Quality Assurance Project Plan.

3.4 Standard Operating Procedures (SOPs).

3.4.1 Refer to SOP ***Procedure for the Preparation, Review, and Approval for Standard Operating Procedures DCN 3015*** for detailed information related to Standard Operating Procedure initiation, use, and maintenance.

3.4.2 SOPs document routine or repetitive administrative and technical activities, which aid in creating consistency in the quality and integrity of the data output, promoting quality through consistency. SOP development for technical and administrative activities is an essential component of the quality system. The laboratory shall maintain SOPs that accurately reflect all phases of current laboratory activities. Individuals knowledgeable shall write SOPs for laboratory operations, use of the equipment, and the procedures related to the internal structure of the organization. SOPs must be detailed so that technicians with limited experience could reproduce the procedure or activity. The SOPs are validated by the Laboratory Director, or designee, and by the QAO. The Lab Supervisors, Lab Director and/or QAO review SOPs at a minimum of annually or whenever methods or procedures change. Current copies of all SOPs are available for use. A master list of all SOPs and Forms is maintained. The Document Control Officer (DCO) shall be responsible for maintaining the master list and file of all quality related SOPs.

3.4.3 The Lab Director is responsible for the overall SOP operation and reviews all SOPs or designates a Lab Supervisor to review the SOPs related to their area of expertise.

3.4.3.1 It is the responsibility of the Document Control Officer (DCO) to provide SOP Document Control Numbers (DCN) as new SOPs are written.
3.4.3.2 It is the responsibility of the DCO to maintain and track all original SOPs as controlled documents.
3.4.3.3 The Laboratory Supervisors for each Lab section are responsible for all technical SOPs in their areas.
3.4.3.4 Analysts, under the direction of the Lab Supervisor or Lab Director, may be assigned to prepare or revise technical SOPs.
3.4.3.5 The Lab Director and QAO must approve all SOPs before being suitable for use and implemented for work.
3.4.3.6 The DCO shall be responsible for archival and maintenance of all outdated original SOPs.

Controlled Document

3.4.4 SOP PREPARATION

3.4.4.1 All activities related to the quality of the data product shall be addressed in the form of an SOP.

3.4.4.2 The laboratory shall address in clearly defined, written SOPs or equivalent, at a minimum the following:

3.4.4.2.1 methods of analysis
3.4.4.2.2 procurement and inventory procedures
3.4.4.2.3 preventive maintenance
3.4.4.2.4 record-keeping and record storage (archives)
3.4.4.2.5 data reduction, validation, and reporting
3.4.4.2.6 correcting erroneous reports
3.4.4.2.7 management of laboratory wastes and hazardous materials
3.4.4.2.8 complaints
3.4.4.2.9 deterrence of fraud, ethics policy
3.4.4.2.10 standards preparation
3.4.4.2.11 support instrumentation calibration and checks
3.4.4.2.12 standard operating procedures
3.4.4.2.13 quality control/quality assurance
3.4.4.2.14 data validation and reporting

3.4.4.3 SOPs must be written in a concise, step-by-step, easy to read format. The information shall not be overly complicated, using the active voice and present verb tense. The document shall not be wordy, redundant or overly lengthy.

3.4.4.4 SOPs must be written with sufficient detail such that someone with limited experience or knowledge of the procedure, but having a basic understanding, can successfully reproduce the procedure without supervision.

3.4.5 SOP REVISIONS

3.4.5.1 When changes to an SOP are necessary, the assigned person shall draft modifications using the most current revision of the existing SOP file.

3.4.5.2 The assigned person shall save the current file as a new file incrementing the revision number by 1.

3.4.5.3 The assigned person shall make the necessary changes and save them to file, print out the SOP for review and approval. The supervisor, lab director, or QAO may request further revisions, requiring that the previous step be

Controlled Document

repeated. Once an acceptable SOP is submitted, the SOP preparer and the supervisor or lab director shall sign the SOP and submit it to the QAO for approval.

3.4.6 SOP REVIEW and APPROVAL

3.4.6.1 Each existing SOP shall be reviewed at least annually form the date of the last approval. The SOP shall be re-approved if no changes are warranted. The documentation of this process shall be a new signature page with signatures appropriate for the type SOP. Any change to the SOP's major procedures or QC limits shall be documented in a revision to the SOP and submitted for approval. Errata pages can be attached where needed until the next update. Each data package of sample results shall be referenced to the Method of analysis or the SOP used to generate the results, including SOP# date and revision#.

3.4.6.2 All modifications made to an approved SOP must first be reviewed and approved by the Lab Supervisor or Lab Director and QAO before being issued for use. Data must be presented to ensure that the modification does not adversely affect the accuracy and precision of the previously approved SOP when the SOP revision relates to major procedure changes. All original SOPs shall be kept on file by the QAO. The QAO shall track the use of each modification and report to management, including recommendations to formally revise the SOP permanently, if the validation data of the modified SOP indicates it is prudent to do so.

3.4.7 SOP TRACKING

3.4.7.1 It is the responsibility of the QAO to track Quality related SOPs for purposes of determining a review schedule for all active Quality related SOPs and to record the dates of the last approval and archival of older, outdated versions.

3.4.7.2 It is the responsibility of the Lab Supervisors or designees to track all Technical related SOPs for the purpose of review and update.

3.4.7.3 All SOPs are reviewed during the month of January or February when possible, with changes completed by March.

3.4.7.4 The tracking system is performed in the excel File DCN. All revisions are numbered with a Document Control Number. Revisions are tracked in the header of the SOP and on the file name containing the SOP. All SOPs are

Controlled Document

kept in the folder "Standard Operating Procedures in the QAO "My Documents". SOPs shall be stored on CD for future review.

3.4.7.5 Distribution of SOPs and other associated documents shall be performed by the QAO. The SOPs shall be distributed to the affected party (Lab Supervisors, Lab Director, Office Manager, QAO, and lead analysts when necessary).

3.4.7.6 Retired SOPs, SOPs no longer in routine use, or revised SOPs shall be kept with the current version. A divider stating OUTDATED VERSION shall separate the current SOP from all other SOPs.

3.4.7.7 Each technical SOP shall be placed near where the analysis is performed.

3.4.7.8 Administrative SOPs are maintained in manual form.

3.4.7.9 All technicians are required to read, understand, and follow the most current SOP for the work that is assigned to them.

3.4.8 TECHNICAL SOP FORMAL

3.4.8.1 The SOP format shall generally follow EPA QA/G-6 March 2001, Section 7.0 Some of the sections were merged and or added from the suggested to format to comply with NELAP/LELAP requirements. In these instances, the information is checked to ensure the information required for the SOP is addressed. The format is listed below.

3.4.8.2 Each SOP and its computer file contain header and footer information. The document is paginated with a header similar to the one on this page. Some appendices may not be included in the page numbers if they are copies of documents.

3.4.8.3 SOPs are maintained in Word Format.

3.4.9 ADMINISTRATIVE SOP FORMAT

3.4.9.1 As with technical SOPs, administrative SOPs can be written for a wide variety of activities, such as reviewing documentation and contracts, QA Project Plans, Quality Management Plans, Quality Assurance Manuals, auditing, training, data validation, and describing office operations.

Controlled Document

3.4.9.2 Administrative SOPs should include specific steps aimed at initiating the activity, coordinating the activity, and recording and/or reporting the results of the activity. For example, audit or assessment SOPs should specify the authority for the assessment, how person(s) being audited are to be selected, what shall be done with the results, and who is responsible for the corrective action. Administrative SOPs should fit within the framework presented next but the format can be modified, reduced, or expanded as needed.

3.4.9.3 The Administrative SOP shall consist of a Title Page with approval Signatures, Table of Contents, Procedures, Quality Assurance/Quality Control, and References. Tables, Checklists and Flow charts may be added where needed.

3.4.9.4 Procedures shall capture the following information where applicable:
- 3.4.9.4.1 Purpose
- 3.4.9.4.2 Scope and Applicability
- 3.4.9.4.3 Summary
- 3.4.9.4.4 Definitions
- 3.4.9.4.5 Personnel Qualifications/Responsibilities
- 3.4.9.4.6 Procedure
- 3.4.9.4.7 Criteria, Checklists, and Standards
- 3.4.9.4.8 Data and Records Management
- 3.4.9.4.9 Quality Control and Quality Assurance Section.

3.5 Data Quality Assessments

1) Data shall be continually assessed and evaluated through internal quality checks.
2) Data shall be monitored for the following: accuracy, precision, completeness, comparability, representative ness, and statistical confidence.
3) The routine data along with the QC/Performance Evaluation data shall go through data validation verification, which measurement performance and measurement procedures are validated and verified. The data is reviewed for reporting requirements.
4) The validated/verified data is further assessed using the five-step process of the EPA document "Guidance for Data Quality Assessment" EPA QA/G-9: Review the DQOs and sampling design; conduct a preliminary data review; select the statistical test; verify the assumptions of the statistical test; and draw conclusions from the data.

Controlled Document

3.6 Identification of Activities to which QA/QC is applied

3.6.1 The Quality Assurance/Quality Control policies shall be applied to, but are not limited to the following activities:

1) Management Activities
2) Personnel Training
3) Procurement of Supplies
4) Documentation and Records
5) Computer Hardware and Software
6) Project Planning
7) Laboratory and Field Operations
8) Data Acquisition
9) Data Reduction, Review, and Validation
10) Systems Maintenance and Calibration
11) Assessment and Response
12) Quality Improvement

3.7 Quality Assurance Manual

3.7.1 The Quality Assurance Manual (QAM) states the policies and operational procedures established by Micro-Methods to meet and carry out the guides established in the Quality System. The QAM and related documentation shall address and contain the following:

3.7.2 The QAM shall list on the title page:

1) Document title
2) The laboratory's full name and address
3) The name and telephone number of the laboratory, where individuals responsible for the laboratory can be reached
4) The name of the QAO
5) The identification of all major organizational units which are to be covered by the quality system and the effective date of the version

3.7.3 The QAM and associated documentation also contains the following:

1) A quality policy statement, including objectives and commitments by top management
2) The organization and management structure of the laboratory, its place in any parent organization and relevant organizational charts

Controlled Document

3) The relationship between management, technical operations, support services, and the quality system
4) Procedures to ensure that all records required under this quality system are retained, as well as procedures for control and maintenance of documentation through a document control system, which ensures that all SOPs, manuals or documents clearly indicate the time period during which the procedure or document was in force
5) Job descriptions of key staff and reference to the job descriptions of other staff
6) Identification of the laboratory's approved signatories; at a minimum, the title page of the Quality Manual must have the signed concurrence, (with appropriate titles) of all responsible parties including the QAO, the Laboratory Director, Office Manager, and Laboratory Supervisors
7) The laboratory's procedures for achieving trace ability of measurements
8) A list of all test methods the laboratory performs
9) Mechanisms for ensuring that the laboratory reviews all new work to ensure that it has the appropriate facilities and resources before commencing such work
10) Reference to the calibration and verification of test procedures
11) Procedures for handling submitted samples
12) Reference to the major equipment and reference measurement standards, as well as the facilities and services used by the laboratory in conducting tests
13) Reference to procedures for calibration, verification, and maintenance of equipment
14) Reference to verification practices including inter-laboratory comparisons, proficiency testing programs, and use of reference
15) Procedures to be followed for feedback and corrective action whenever testing discrepancies are detected, or departures from documented policies and procedures occur
16) The laboratory management arrangements for exceptionally permitting departures from documented policies and procedures or from standard specifications
17) Procedures for dealing with complaints
18) Procedures for protecting confidentiality, security concerns, and proprietary rights
19) Procedures for audits and data review
20) Processes/procedures for establishing that personnel are adequately experienced in the duties they are expected to carry out and receive any needed training
21) Reference to procedures for reporting analytical results and a Table of Contents, applicable lists of references, glossaries, and appendices

Controlled Document

4.0 STATEMENT OF QUALITY POLICIES

4.1 Policy on Ethics and Fraud in the Laboratory

Refer to SOP *Guidelines for Analytical Decision Making and Ensuring and Assessing Data Integrity DCN: 3011.*

It is the responsibility of the Lab Director supported by the Ethics and Compliance Officer to inform employees of their responsibilities concerning Fraud, Waste, and Abuse regulations. All Micro Methods employees within the limits of their authority and duties are responsible for fostering and enforcement of laws, regulations, and other directives, for maintaining high standards of ethical conduct, and for promoting efficiency and effectiveness in the administration of management's programs and activities.

These responsibilities require that all Micro Methods employees promptly report instances of and any information on any known or suspected violation of law, rules, or regulations, mismanagement, gross waste of funds or resources, abuse of authority, or any situation which may adversely affect data quality or integrity, or substantial and specific danger to the public health and safety. Employees shall report such activities to the Ethics and Compliance Officer or may elect to anonymously place a note describing the incident into the complaint box located in the laboratory break room.

Action shall not be taken or threatened against any employee as a reprisal for making complaints or disclosing any information to Management unless the complaint was made or the information disclosed with the knowledge that it was false or with willful disregard for its truth or falsity.

The identity of an employee, other than a supervisor or a manager acting in his or her official capacity, who comes forth with a complaint or information by contacting management, shall be kept confidential to the extent possible. Exceptions can be made to this general rule when the employee consents in writing to the release of his/her name.

The accountability for negligence or falsification of data shall rest upon the analyst, management and Micro Methods.

Under no circumstances shall a Micro Methods' employee report false data, misrepresent any data, or manipulate data to give false credibility to the data.

Controlled Document

If an employee has knowledge of, or suspects that a co-worker has committed a fraudulent act, it is his/her responsibility to report the activity in full to the Ethics and Compliance Officer (ECO) or the Lab Director.

Any reported or suspected infractions of data integrity or unethical behavior affecting data integrity, company reputation, or client relationships shall result in a detailed investigation initiated by the Ethics and Compliance Officer that could possibly lead to serious consequences that may include immediate termination, debarment, or civil and or criminal prosecution.

In the event that the investigation focus is on a Management function or activity or an activity of the ECO, in which Management or ECO participation biases the investigation, Management or the ECO shall remove itself from the investigation and be replaced with suitable and agreed upon investigator/s.

The procedures on ethics and data integrity shall be reviewed by the ECO/QAO at least annually with concurrent approval for use by the Lab Director.

All documentation of the investigation and outcome, including discipline shall be placed in the employee's personnel file and maintained for a minimum of 7 years.

4.2 Code of Ethics

All Micro Methods employees are charged with the following:

- Providing accountability for the quality and integrity of the analytical services they provide. Proper documentation of pertinent laboratory functions and the resulting data product to ensure that the data product is of known and documented quality is the responsibility of all employees.
- It is the responsibility of all employees to strive to maintain and improve their technical knowledge and professional competence. This responsibility requires that each employee become competent in the use of the tools and data interpretation necessary for the performance of their assigned tasks and duties.
- Each employee is responsible for maintaining cooperative, professional working relationships with clients and their co-workers.
- Shall engage only in those activities that do not endanger the trust in its independence of judgment and integrity in relation to its environmental testing activities.

Controlled Document

4.3 Statement of Laboratory Quality Policy

4.3.1 Micro-Methods' goal is to earn the recognition as an industry leader in environmental and analytical testing services. The following quality policy statement has been issued by the Lab Director and Chief Executive Officer:

4.3.1.1 **We, at Micro-Methods shall achieve this status by providing our clients with credible, defensible data, and data of known and documented quality through a total commitment to our quality system and supporting procedures.**

4.3.2 Because of the decisions made from analytical data, as well as the possibility of litigation, it is necessary that data be supported by controls to assure the data user and the data generator that the results are acceptable for the use intended.

Controlled Document

4.4 Quality Goals

4.4.1 Micro-Methods is committed to good laboratory practices and providing quality analytical services to all of our clients. We shall accomplish this by establishing the following quality goals:

1) Implement a quality management system that shall achieve and monitor data integrity, validity, and usability.

2) Establish and maintain a comprehensive training program quality and analytical training for all employees engaged in decisions affecting the quality of laboratory output.

3) Establish and maintain a system to ensure that analytical measurement systems are maintained in an acceptable status of accuracy, stability, and reproducibility.

4) Establish and maintain a system of problem detection through quality control indicators.

5) Use exclusively published and written procedures for operation.

6) Document all aspects of the measurement process in order to provide data that is technically sound and legally defensible.

7) Establish and maintain laboratory assessment and audit procedures for all analytical and document control systems.

8) Establish and maintain policies and procedures to ensure the client's confidential information and proprietary rights.

4.5 Quality Objectives

4.5.1 Goal of the Laboratory Quality Assurance Program is to assure that the measurement program of Micro Methods provides high-quality research and analytical measurement data, which are accurate, reliable, and adequate for the intended purpose in a cost effective manner. To this end, Management is dedicated to the encouragement of excellence in measurement and to provide the physical and mental

Controlled Document

environment conducive to its achievement. To further these objectives, the quality assurance program described in the following sections has been established and applies to all scientific and technical work conducted, in principle and in detail, to the extent possible and feasible.

4.5.2 QA/QC protocols are derived from EPA SW-846 Methods, Methods of Chemical Analysis of Water and Waste Water, EPA-600 series Methods, EPA-500 series Methods. The following documentation shall outline the measures used in the Laboratory to achieve the measurement program goal.

4.5.3 Specific quality objectives are located in the Appendix to this document.

4.6 Operations Policy

4.6.1 It is the policy of Micro Methods Laboratory staff to conduct all laboratory operations within the framework of the following four guiding principles:

1) Safety
2) Integrity
3) Quality
4) Service

All of these principles must be present for successful laboratory operations.

4.6.1.1 Safety Policy

The primary consideration in all laboratory operations must be safety focused. Safety must never be compromised and takes priority over all considerations during the testing. It is the responsibility of all staff to have a clear understanding of basic laboratory safety rules and must be able to safely perform laboratory activities within their area of responsibility. Each employee must maintain a constant vigilance over safe operations and to notify their supervisor, lab director, or safety officer of unsafe conditions. If unsure of the safety of any procedure, method, or operational activity, it is the responsibility of each individual to contact his or her immediate supervisor, the lab director, or safety officer. Analysts and technicians must never initiate an action, procedure, or method if uncertain of how to safely proceed.

4.6.1.2 Data Integrity and Laboratory Ethics Policy

It shall be the policy of Micro Methods Laboratory staff to conduct all laboratory operations with integrity and in an ethical manner. All Micro Methods Laboratory staff within the limits of their authority and duties is

Controlled Document

responsible for fostering and enforcement of laws, regulations and other directives, for maintaining the highest standard of ethical conduct, and for promoting efficiency and effectiveness in the administration of management's programs and activities in all laboratory operations.

This policy extends to and includes all aspects of data production, analysis, review, reporting, communication of data, advertisement, field services, management, accounting and outsourcing. This policy is, in effect, the cornerstone and foundation of the laboratory's self governance program, having as its purpose and intent the "commitment of the entire laboratory staff to comply with all applicable laws, regulations, and policies, and to adhere to the highest professional standards of business ethics and honesty." Management is committed at all levels to adhere to the program.

It is essential that every employee of Micro Methods Laboratory understands and upholds these ethical work standards and practices in order to preserve the basic integrity of all laboratory operations affecting the data product. Without full cooperation from the entire staff, the achievement of full conformance with the policy goals is compromised and consequently threatens the survival of the laboratory. Additionally, ethical performance and data integrity must supersede all other operational laboratory objectives.

Data integrity can be defined in simplistic language as data in "the state of being unimpaired", and performed according to appropriate and approved for use practices and procedures. Data integrity is made defensible through complete and accurate documentation of all laboratory operations and activities affecting the quality of the data. Included among these items are: strict chain of custody procedures and sample security; clear and precise documentation of the laboratory activities performed during the collection, preparation, and analysis of the samples and in data reduction, review, and reporting; and, by carefully maintaining the data, files, and documents.

It is the responsibility of the Ethics and Compliance Officer and the Management Committee to implement, establish, and maintain the Laboratory Ethics and Data Integrity procedures and policies.

It is the responsibility of Management to provide sufficient resources to effectively operate all aspects of the Ethics and Data Integrity program.

Controlled Document

4.6.1.3 Quality Policy

It is the policy of Micro Methods Laboratory that all data products generated is of the highest quality, meeting or exceeding the data quality objectives of each project. Managers, supervisors, and analysts share the responsibility of insuring that analytical methods, instruments, parameter detection and quantitation are such that the data product is scientifically sound and adequately documented. Utmost importance is placed on the quality of all the data produced by this laboratory and that it be well defined and communicated to the data user or client. This policy is accomplished by:

1) Having and following a formalized, complete, and systematic process of quality control activities which define data quality;

2) Insuring that data quality is completely documented and communicated to all data users by assigning appropriate data qualifiers to prescribed procedures;

3) By having a data cross check system review process to verify that data are generated in accordance with sound and appropriate technical procedures and by ensuring that all activities associated with the analyses, calculations, and data reduction are complete and accurate;

4) Maintaining data integrity, validity, and usability;

5) Assurance that analytical measurement systems are maintained in an acceptable state of accuracy, stability, and reproducibility;

6) Detection of problems through quality control indicators recoveries of surrogates, matrix spikes, and matrix spike duplicates, by duplicate measurements of samples, blank determinations, standard checks, and instrument calibration;

7) A system of established corrective action procedures, which keep all analytical, processes reliable;

8) Documentation of all aspects of the measurement process in order to provide data, which are technically sound and legally defensible;

9) A well-defined organization with chain of command stating clear job descriptions and responsibilities of all staff;

Controlled Document

10) A well-defined Quality Management Program with QA/QC responsibilities and system of reporting between QA and Management;

11) Assessment and audit procedures for all analytical and document control systems (internal and external sources);

12) Comprehensive training for all employees engaged in making decisions affecting the quality of laboratory output;

13) The use of properly prepared and documented reagents, chemicals and standards (expiration dates established);

14) Continued participation in certification programs and inter- laboratory testing programs recognized by an accredited organization (APG Water Supply Study and APG Water Pollution Study, APG DMRQA, AIHA, etc.);

15) Establishing and documenting policies and procedures to ensure the protection of clients' confidential information and proprietary rights;

16) The establishment of an Ethics and Data Integrity Program with oversight by Management and the Ethics and Compliance Officer (ECO)

4.6.1.4 Service Policy

Micro Methods Laboratory is an analytical service organization focused on customer needs as related to satisfaction with their data product. Our service policy is founded on two principles:

1) Communication: This principle most often involves simple conversations in order to convey a more complete understanding of the data quality objectives, but is also used to assist the data user in better understanding analytical capabilities and limitations. Good and frequent communications also enhance the ability to learn about the client's emerging needs, providing opportunity to plan accordingly. Micro Methods Laboratory management and staff are proactive in the initiation of these communications. Communications lines are always open. Clients are encouraged to monitor the laboratory's performance through on-site audits, field QC, etc...

Controlled Document

2) Timeliness: The timing of delivery of the final data product is often a critical and vital part of the overall service performed. It is the policy of Micro Methods Laboratory to never compromise Safety, Integrity, or Quality for the sake of Timeliness. However, timeliness is a driving factor in customer satisfaction. It is the responsibility of all management and staff to maintain a high degree of attention toward providing the data product to the data user in a timely manner, as established by project objectives or client needs. In the event that circumstances result in not meeting data delivery timelines, the customer must be contacted and notified of the issues surrounding the late data and to keep the data users abreast of the progress of the project.

4.7 Progressive Discipline Policy

4.7.1 When it becomes necessary to change an employee's performance or behavior from acceptable to unacceptable, this Progressive Discipline Policy provides the means to accomplish this in a fair and consistent way. When Management determines there is just cause for disciplinary action, the following steps used in the process are outlined below. However, based on the seriousness of the offense, Management may apply any level of disciplinary action or termination.

Verbal Correction—The supervisor or Lab Director will provide verbal correction to the employee. A written record of this correction shall be placed in the employee's personnel file.

Written Correction—If the employee does not correct his or her behavior, the supervisor shall consult the Lab Director and prepare a written correction. The employee shall be required to sign indicating receipt of a copy of the written correction, and a copy shall be placed in the employee's personnel file.

Suspension without Pay—If the written correction does not correct the problem, the employee may be suspended without pay for a minimum of two days. The Lab Director shall approve this suspension without pay.

Termination—When all other means of discipline have been used, or when the offense justifies such action, the employee may be terminated. The supervisor may

Controlled Document

recommend termination of employees. Management, who shall determine the action to be taken, shall review recommendations.

If the employee feels that the termination is unfair, he or she may fully utilize the open door policy.

Management reserves the right to enter into any level of disciplinary action or termination based on the severity of the offense requiring discipline and the employee's past work history.

4.8 Level of Quality Assurance

4.8.1 Quality Assurance Objectives for precision and accuracy are derived from the requirements stated by the Methods employed. Each Method specifies the use and frequency of blanks, calibration standards, calibration check analyses, surrogates, and matrix spike compounds to monitor the performance of the Method and analyst.

4.8.2 The reliability of the data generated by the Laboratory shall be reviewed by the Quality Assurance Officer or his designee and evaluated at the 99 percent confidence level (mean +/-3 standard deviations) for Control Limits and at the 95 percent confidence level (mean +/-2 standard deviations) for Warning Limits. These control limits shall be used as the basis for acceptance or rejection of criteria for each method. In cases where control limits are specified by the method, these limits shall be used until 20-30 data points are acquired, then lab generated control limits shall be calculated and used to assess batch acceptability as required. Precision shall be calculated from sample duplicates or matrix spike duplicates, check standards, and performance evaluation samples.

4.8.3 In the event that there exists no acceptance/rejection criteria, the laboratory shall generate control limits by spiking samples or lab reagent water, calculating the precision and accuracy of the samples and establishing the control limits based on 20-30 results.

4.9 Precision and Accuracy

4.9.1 The Quality Assurance controls for precision and accuracy are taken from those established by EPA in the Methods to demonstrate Laboratory capability. Control charts are generated on the parameters of interest while the system is in control. Control limits produced within the lab shall take precedence over EPA- listed control limits, if lab control is more stringent.

Controlled Document

4.9.2 Precision is the degree of agreement between replicate measurements of the same parameter under prescribed, similar conditions. Precision from replicate measurements is calculated between two measurements as Relative Percent Difference (RPD) as follows:

$$RPD = 100 * \frac{A - B}{(A - B)/2}$$

where: A = Result (concentration)
B = Duplicate Result (concentration)

4.9.3 If three or more replicate measurements are made, the Relative Standard Deviation (RSD) shall be calculated instead of RPD. The following formula shall be used to calculate RSD, when required:

$$RSD = (s/x) \times 100$$

where: s is the standard deviation and x is the mean of replicate values.

4.9.4 Accuracy is the degree of agreement between the true value of the parameter being measured and the observations made according to the test method. Accuracy shall be determined by comparison of the environmental sample results to certified reference samples or as percent recovery of matrix spikes.

4.9.5 Accuracy shall be evaluated by calculating the Percent Recovery of the spiked compounds as follows:

Accuracy = Percent Recovery

$$\text{Percent Recovery} = 100 * (A/B)$$

Where: A = Quantity determined by analysis minus the amount found in the un-spiked sample
B = Spike amount added to the sample

Controlled Document

4.8.6 The results of the analysis of spiked samples are used to detect interferences due to the sample matrix/type by comparing the matrix spike recoveries to lab control spikes When deviations in quality are attributed to matrix related interferences, they shall be noted in the narrative of the sample.

4.9 Completeness

4.9.1 Completeness is defined as the measure of the amount of data from a measurement process compared to the amount expected under the conditions of measurement. This can be understood to be that all the analyses requested by a client were done properly and in accordance with the Methods or SOPs as appropriate, within holding time requirements, within all QC control limits, and meeting the client's needs for the data. Completeness also refers to the ability of the lab to generate useful and understandable data. Our goal is to generate completely valid data; however, it is recognized that some samples may be lost or invalidated in the laboratory and that some results may be deemed questionable based on internal QC results. Checklists are used to help ensure that the data requested is data delivered. Several Quality checkpoints exist to help eliminate problems. Completeness also refers to the amount of data that is successfully collected and validated with respect to the amount intended in specific project design. A certain percentage of the intended data must be successfully determined for valid conclusions to be reached. Completeness is usually expressed in percent. When required by specific QA plans or deemed appropriate by Management, or requested by the client, completeness shall be calculated using the following formula (by the Quality Assurance Officer or designee):

$$\% \text{ Completeness} = \frac{(\text{number of valid measurements}) \times 100}{(\text{Number of measurements expected})}$$

4.9.2 More important than trying to quantify completeness is the identification of situations, which might hinder the collection of the samples or the timely reporting of all the results. Micro-Methods' Management stresses the importance of meeting data completeness, time, and quality requirements and maintains close account of the intervals related to each sample group. In the event that data or samples are lost or invalidated in the laboratory or that some results may be determined to be questionable based on internal QC results, every effort shall be made to correct this situation and provide the client with defensible data as requested. If Quality Checks within the measurement system reveal a problem that shall affect the final data, immediate corrective action shall be implemented. Re-extraction, re-analysis, and re-submission of data shall be of primary importance, if time requirements are met

Controlled Document

(holding times and client-required times). If, however, these requirements are not met, Micro-Methods shall, if the client agrees, request a resample at no extra analysis cost to the client or shall perform the re-sampling or shall compensate the client for the re-sample. Refer to SOP *Complaint Resolution* for further instruction on handling technical complaints. With good planning, all samples must be successfully collected, transported, analyzed and all data must be reported.

4.10 Representativeness

4.10.1 Representative ness is defined as the degree to which the data accurately and precisely represent a characteristic of a population parameter, variation of a property, a process characteristic, or an operational condition. Representative ness is a measure of how closely the measured results reflect the actual concentration or distribution of the target compounds in the sample. Sample handling protocols have been established to preserve the representative ness of the samples in custody. To further monitor and achieve representative ness, the most critical factors are addressed and controlled. Listed below are these critical factors:

1) Appropriate sample points

2) Time and environmental conditions of sampling

3) Frequency of sampling

4) Use of approved sampling equipment and procedures by trained field technicians

5) Maintenance of sample integrity from collection to disposal

6) Proper storage in temperature controlled environment with preservatives as required

7) Follow sample composting, homogenizing, and sample preparation, as dictated by the Methods or SOPs, documenting all deviations

8) Using proper pre-cleaned sample containers

9) Clean and contaminant free work spaces

10) Experienced Preparation Technicians

Controlled Document

4.10.2 Proper documentation shall establish that these protocols have been followed. Micro-Methods Analysts shall make every attempt to ensure that the aliquots taken for analysis are representative of the samples received.

4.11 Comparability

4.11.1 Comparability is defined as the confidence with which new data set can be compared to another. The generation of comparable data is a major goal of any analytical program. This characteristic implies that strict adherence to publish, proven analytical protocols and use of standard reporting techniques must be followed. Micro-Methods' analytical measurement system is structured around the adherence of fully documented protocols as prescribed by the Methods. The comparability objective is that all analyses be comparable and consistent with data from similar samples analyzed by other labs using similar instrumentation and the same methods. Participation in the APG Water Study, APG Water Pollution Study, ELPAT, AIHA, and Performance Evaluation Testing (laboratory performance testing programs) provide valuable information and a level of confidence that Micro-Methods data output is comparable to data generated by other laboratories performing the same Methods. Another source of feedback of comparability is through interchange of technicians performing the same analysis on the same samples under the same conditions. A third source of feedback can be a sample exchange program with another lab.

Controlled Document

4.12 Other Quality Objectives

4.12.1 Develop, implement, and maintain methods capable of meeting the client's needs for data usability and defensibility.

4.12.2 Ensure that all staff members receive training in basic quality technology, in sufficient depth to enable them to carry out the provisions established in this quality program.

4.12.3 Establish the level of quality of the laboratory's routine performance as a baseline against which to measure the effectiveness of quality improvement efforts.

4.12.4 Monitor the routine operational performance of the laboratory and to provide expedient solutions to problems of data quality.

4.12.5 Review established quality objectives at a minimum once a year for long-term objectives and once per quarter on short-term objectives.

4.13

4.14 Information Sensitivity Policy

4.14.1 The information sensitivity policy is intended to assist employees in determining what information can be disclosed to non-employees and establishing the relative sensitivity of information that must not be disclosed outside of the organization without proper authorization.

4.14.2 The information may either be stored or shared via any means. This would include at least the following: electronic information, information on paper, and information shared orally or visually (such as recorded telephone conversation).

4.14.3 It is the responsibility of all employees to understand and follow the information guidelines established within this policy.

4.14.4 There are three main classifications of information that apply to the data and information acquired and generated within the organization.

A) **Public**—is information that has been declared public which can be freely given to anyone without the possibility of damage to the organization. Examples are business cards, brochures, and employee credentials for specific jobs or responsibilities.

B) **Confidential**—contains all of the controlled information generated by the organization. It is understood that some information is more sensitive than other information and must be protected. This type information would include analytical operating procedures, research applications, and client lists. Any information affecting the business success, improvement,

Controlled Document

operations, development, or proprietary information is considered to be confidential and must not be released without authorization from Management. Also included in the list of confidential information are the following: telephone directories, corporate information, personnel information, etc.

C) **Third Party Confidential**—includes all information belonging to or pertaining to clients or approved subcontractors that has been entrusted to this organization. Examples of this classification are joint development, vendor lists, analytical services provided to clients, supplier information, project locations, sample identification, etc. Third party confidential information must not be released without authorization from Management and the third party.

4.15 Confidentiality and Proprietary Rights

4.15.1 The confidentiality of the client is of the utmost importance at Micro-Methods. The analysis results of each client are the proprietary information of that client and no one else. When work is requested, a work order is written consisting of the following:

1) The company or the individual for which the work is being done.
2) The analysis requested.
3) The person's name requesting the work.
4) Phone and fax numbers of where the results should be sent. The names on these work orders are the only people contacted concerning the analysis performed.

4.15.2 No information concerning samples, analysis or results is given in any form to anyone but the client designated to receive this information. Clients are requested to confirm that they have received results or information that is sent via fax or email. Fax numbers and email addresses are checked to determine if they are valid addresses.

4.15.3 All employees at Micro-Methods have signed a letter of confidentiality proving they have been informed of this company policy.

4.15.4 Micro Methods, as routine policy, respects and honors client/laboratory confidentiality. Only Management or approved designees are allowed to give verbal results to clients. Employees are warned that discussing results of analyses with anyone outside of work is forbidden and could result in termination if this is done. We respect the rights of our clients and make every attempt to ensure confidentiality.

Controlled Document

4.15.5 Occasionally clients shall request for confidentiality, generally for samples or documentation that possibly could go to litigation. These samples or documents must be accompanied by a written request of confidentiality. Management shall assign the documents or samples to an individual or individuals to be solely responsible for the handling of the documents or samples under the supervision of the Lab Director or the Document Control Officer (Office Manager) as appropriate. All data generated from confidential samples shall be treated as confidential, as are the samples.

4.15.6 Confidential documents shall be logged into a confidential inventory log by the DCO or designee. A separate locked file shall be maintained to store this information and shall be segregated from other non-confidential files. The Office Manager is responsible for the locked file cabinets in the front office. All authorized confidential documents shall be kept under lock until the authorized parties request the documents. Only Upper Management or designees are allowed access to confidential documents, which must be signed out and returned before 4:30pm of each working day. Confidential information may not be reproduced except by written authorization from the person or persons requesting the confidentiality. Records of any copies shall be entered into the confidential inventory log with any other correspondence. All correspondence concerning the confidentiality shall be between the authorized person or persons employed by Micro Methods and the original requestor of confidentiality or their designees. In addition, this information may not be disposed of except upon approval by the requestor. The DCO shall remove and retain the cover page of any confidential information disposed of for one year and shall keep a record of the disposition in the confidential inventory log. The same securities exist for samples and their extracts.

4.15.7 During audits by clients or regulatory agencies or when visitors are on-site, all employees must do their utmost to protect the confidentiality of our clients. No discussions, in the presence of visitors related to other clients' samples, reports or information specific to the other clients' samples, reports or other information are allowed. No phone calls announcing the party calling are allowed. No phone calls announcing who the individual is making the call or with what company they are employed.

4.15.8 During audits by clients or client representatives all employees shall make every effort to protect other clients' confidentiality. The auditor shall only have access to reports and data related to the company that the auditor represents. Other clients' names or sample information contained in logbooks, run sequences, and raw data shall be covered to the extent possible. Whenever possible client names should not be recorded in open logbooks, only the laboratory ID and sample information. Copies of data with

Controlled Document

other clients' names shall be "blacked out" or concealed in some way. Logs generated from the LIMS should not contain client names and are preferred because it allows client specific data retrieval without compromising other clients' confidentiality. Sample labels shall not contain client names and only information that does not compromise the confidentiality of clients or their data.

4.15.9 If the courts subpoena records, the representative or attorney shall only have access to the records requested by the court. In addition when review of these records is required on site, the reviewer shall not be granted access to any laboratory space other than the designated office area.

4.15.10 In the event that the ownership of Micro Methods changes as a result of sale or in case Micro Methods is unable to provide client services, clients shall be notified in writing and/or by phone of the change. The clients shall be offered their records, which can either be picked up or delivered or can opt to have the records disposed of by Micro Methods representatives. Client confidentiality shall be maintained. A letter indicating the clients' options shall be sent to the client. After the client returns the letter Micro Methods shall perform the records return or disposal as requested documenting the activity.

4.15.11 Subcontractors performing analytical services for Micro Methods Laboratory shall also be subject to all confidentiality requirements and may be required to sign confidentiality agreements, depending on the type work and client.

4.15.12 Client auditors and/or client representatives shall also be subject to all confidentiality requirements and may be required to sign confidentiality agreements prior to the audit.

4.15.13 A designated employee shall escort all visitors and auditors requiring access into the laboratory.

4.15.14 Clients submitting samples shall not be allowed access to the laboratory without an escort.

4.16 Departures/Deviations from Documented Policies, Std. Specs, or Procedures

4.16.1 All deviations from existing procedures, work plans or policies must be documented in bound notebooks, bench sheets, or on the raw data as to the extent of, and reason for, the deviation. The Lab Director must approve all deviations in writing. Analysts or Lab Supervisors. Technicians do not have authorization to change or deviate from prescribed procedures without prior approval from the Lab Director or

Controlled Document

Lab Supervisor. Analysts shall discuss changes with their immediate supervisors. The supervisors shall act as intermediate to discuss the change options with the Lab Director. Prior to the deviation, where possible, the Lab Supervisor shall contact the clients for their approval of any deviation. No deviation impacting data shall be implemented without approval of the client. All activities not performed in accordance with established Standard Operating Procedures or project plans are considered to be deviations and even though these deviations may or may not affect data quality, they must be documented. The Lab Director or Lab Supervisors shall initial the deviation as approval.

4.16.2 All QC failures shall be qualified in the final report and discussed in the narrative report.

4.16.3 All anomalies that affect the quality of the data must be qualified and explained in the narrative report.

5.0 PERSONNEL QUALIFICATIONS AND TRAINING

5.1 Personnel Qualifications and Training Policy

5.1.1 Micro-Methods Management policy requires that personnel performing analytical testing or duties for a laboratory function must be qualified to perform the assigned tasks. Micro Methods Laboratory management makes every effort to hire qualified employees.

5.1.2 In the event that contract personnel are used to fill laboratory positions, they shall be subject to all training requirements and shall also follow the same quality system requirements, and method requirements.

5.1.3 Analysts performing methods must possess minimum education and performance relative qualifications as established by policy.

5.1.4 Analysts shall complete an external or internal training program for the tasks for which they shall be assigned. Analysts shall not perform methods or tasks for which they have not been trained.

5.1.5 The training shall be documented for each procedure. The supervisors shall train analysts and subordinates for the tasks they perform. The QAO shall maintain the Quality related training records and the Lab Supervisors shall maintain the Technical related training records. Each method shall be evaluated, as shall each analyst, by

Controlled Document

demonstrations of capability and continued acceptable testing results. Personnel shall be proportioned such that adequate supervision is ensured.

5.1.6 The Lab Director shall certify and document this certification that personnel with appropriate education and or technical background perform all tests.

5.1.7 Management shall evaluate each position to determine the necessary qualifications for personnel to perform their technical and quality duties and responsibilities in a safe and effective manner. The qualifications shall be documented in terms of education, experience, training, and technical knowledge and shall reflect the hazards and risks associated with the positions.

5.2 Job Qualifications/Position Titles

Micro-Methods shall not discriminate against any employee because of race, color, religion, sex, or national origin.

5.2.1 Laboratory Director

The Laboratory Director must have a bachelor's degree in science, preferably in chemistry or a minimum of four years equivalent experience in a related field. The Laboratory Director must have a minimum of two years job related experience in the area of environmental analysis.

5.2.2 Technical Director/Quality Assurance OfficerAssurance Officer (QAO)

The Technical Director/AO must have a bachelor's degree in science, preferably in chemistry or four years equivalent experience in a related field. The Technical Director/AO must have a minimum of five years environmental laboratory experience. The Technical Director/AOmust have a general knowledge of all analytical methods performed at the laboratory. Training shall be documented.

5.2.3 Lab Supervisors (Organic, Inorganic)

Organics and Inorganic Supervisors must have a bachelor's in science, preferably in chemistry with at least 24 college semester credit hours in chemistry. Supervisors must have a minimum of four years experience in the area they are to supervise and six months prior supervisory experience in the field they are to supervise, in accordance with LAC Title 33, Part 1, subpart 3, sec 4901-D.

5.2.4 Analysts/Technicians

Controlled Document

Analysts/Technicians (General Chemistry) must have a high school diploma and documented in-house training for all methods they are assigned. Analysts/Technicians shall be adequately supervised.

5.2.4.1 Analyst/Technicians Metals Instrument Operators) must have a high school diploma with six months documented training for all methods and instruments used.

5.2.4.2 Analysts/Technicians (GC or GC/MS) must have a high school diploma; BS in science or Chemistry preferred with six months documented training on all instruments and methods to which they are assigned. Trainees shall be adequately supervised.

5.2.4.3 Analysts/Technicians (Industrial hygiene) must have a high school diploma and attend a NIOSH 582 training course for asbestos fiber counting and a supervisory course for sampling. Individualized training is required.

5.2.5 Officer Manager

Employee must have a high school diploma and clerical training with a minimum of two years clerical experience with accounting skills.

5.2.6 Clerical Staff

Employee must have a high school diploma and undergo six months of on-the-job-training in a clerical setting.

5.2.7 **Sample Custodian**

Employee must have a high school diploma and undergo specific training from the SOP for Sample Log-In and Sample-Handling. Computer training is required.

Controlled Document

5.3 On-the-Job Training and Certification

5.3.1 Refer to SOP ***Training*** DCN: 3014 for detailed information.

5.3.2 All employees shall receive some type of on-the-job training commensurate with their experience and background to enhance their acquired experience and education.

5.3.3 All Analysts/Technicians shall be adequately supervised. When changes to work groups occur the technician shall be partnered with a more experienced technician or shall work directly with the supervisor to accomplish the tasks.

5.3.4 The data produced by the trainee shall be validated and verified by the Supervisor or Lab Director.

5.3.5 Analyst training shall be considered up to date if an employee file contains a certification that personnel have read, understood, and agreed to perform the most recent version of the approved method or SOP, and documentation of continued proficiency by at least one of the following once per year or when there are personnel changes within the work group.

1) Perform a blind sample at an acceptable level.
2) Demonstrate method performance.
3) Successful analysis of a blind performance sample on a similar test method using the same technology would only require documentation for one of the test methods.
4) Perform at least four consecutive laboratory control samples with acceptable levels of precision and accuracy.
5) If one of the above cannot be performed, analysis of authentic samples that have been analyzed by another trained analyst with statistically identical results.

5.3.6 In circumstances where a work group is required to perform a method or procedure, the individual shall receive certification when the final acceptance criteria are met. Demonstration of capability applies to the group as a whole. Training records shall reflect the individual performance in the process. The above requirements apply to the work group as well. In the event that any of the Quality indicators for the first four analytical batches fail, the problem must be investigated, corrected, and the demonstration of capability performed again.

5.3.7 The following documents shall be used as evidence of capability and training:

Controlled Document

Demonstration of Capability
Certification Statement

Date: _____ Page ____ of ____

Initial Demonstration of Capability (IDOC)_____

Continuing Demonstration of Capability (CDOC)_____

Micro Methods Laboratory
6500 Sunplex Drive, Ocean Springs, MS 39564

Analyst(s) Name(s):

Matrix:

Method Number, SOP#, Rev# and Analyte or Class of analytes or Measured Parameters:

We, the undersigned CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.
2. The test method(s) was performed by the analyst(s) identified on this certification.
3. The test method(s) and the laboratory-specific SOPs are available for all personnel on-site.
4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).
5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is formally organized and available for review by authorized assessors.

_____	_____	_____
Lab Supervisor/Lab Director	Signature	Date
_____	_____	_____
QAO	Signature	Date

For Quality, Ethics, and Data Integrity Training
1) These analyst/technicians have received the Quality Related Training listed below.

Controlled Document

For Procedures and Methods
2) These analysts/technicians have read the SOP (if available) for the training listed below.
2) These analysts/technicians have signed documentation of the training.

3) These analysts/technicians have demonstrated his/her (their) understanding of the requirements related to the training

4) The training was a requirement of the Quality Assurance Manual and the SOP *Training* DCN 3014 to meet current LELAP/NELAP Standards.

Training:_____
Based on Reference Method or SOP DCN#_____
Date of Training:_____ Instructor:_____

Analyst/Technician/Management	Date of Training		

As required in Micro Methods Laboratory's Training Program, this employee has received the following Quality related training or continuing quality training:

Controlled Document

Quality Training	Date Certified/ Trained	Certified/ Trained by	Technician

For Technical, Administrative, or other Training
1) These analyst/technicians have received the Technical Training listed below.

For Procedures and Methods

Controlled Document

2) These analysts/technicians have read the SOP for the procedure listed below.
3) These analysts/technicians have observed a trained analyst/technician perform the procedure listed below.
4) These analysts/technicians have, under direct supervision, performed the procedure listed below.
5) These analysts/technicians have demonstrated his/her (their) ability to perform the procedure listed below based on the requirements established in the Quality Assurance Manual and the SOP *Training* DCN 3014.

These Analyst/Technicians are qualified to perform the procedure listed below while employed at Micro Methods Laboratory, subject to continued acceptable performance of the procedure and annual re-certification.

Procedure:_____
Based on Reference Method or SOP DCN#_____
Date of Training:_____ Instructor:_____

Analyst/Technician	Date of Training		

5.4 Mandatory Training

5.4.1 All employees shall undergo mandatory training by management, QAO, and outside instructors in the following areas:

Controlled Document

1) Fundamental principles of quality training.
2) The organization's QA policies and procedures.
3) Technical skills for the tasks to which they are responsible.
4) Safety Training.
5) New Employee Orientation.
6) Detection and Deterrence of Laboratory Fraud (Ethics Training)
7) Data Integrity Training

5.5 Training Frequency and Training Responsibilities

Title of Training	*Frequency*	*Responsible Trainer*
New Employee Orientation	Within first month of employment	Lab Supervisor, Office Manager, and QAO
Fundamental Principles of Quality (includes familiarization and review of the QAM and support documentation)	Within first month of employment—annually thereafter or whenever significant changes are made to the quality system	Quality Assurance Officer
Micro Methods QA Policies and Procedures	Within first month of employment—annually thereafter or whenever significant changes are made to the quality system	Quality Assurance Officer
Technical Skills Training	As required for the position—refresher training annually	Lab Supervisors
Laboratory Safety Training	Initial Training within first month of employment—regular monthly meetings	Safety Officer or designees
Detection and Deterrence of Laboratory Fraud (Ethics Training)	Within first month of employment—annually thereafter or whenever ethics topics need	Quality Assurance Officer, Lab Director, or Ethics and Compliance Officer

Controlled Document

	discussion	
Data Integrity Training	Within first month of employment—annually thereafter or whenever data integrity topics need discussion	Quality Assurance Officer, Lab Director, or Ethics and Compliance Officer

5.6 Training Records and Performance Documentation

5.6.1 Files shall be maintained for all employees undergoing training, documenting the extent of the training.

5.6.2 It is the responsibility of the QAO to maintain all quality related training files. It is the responsibility of the Lab Supervisor to maintain all technical training files.

5.6.3 It is the responsibility of the Lab Director and Lab Supervisors to perform in-house documented training or find suitable external training when training is needed that exceeds their realm of expertise.

5.6.4 The QAO and the Supervisor, who performed the training, must authorize the training in writing and certificates.

5.6.5 All training documentation shall be controlled.

5.7 Trainer Qualifications

5.7.1 The Laboratory Supervisors and the Laboratory Director shall be the primary technical trainers.

5.7.2 The trainers shall possess the education and experience as stated in 5.2.3 as a minimum.

5.7.3 The trainers must have documentation of acceptable performance of their ability to perform the tasks for which they train.

5.7.4 The QAO shall be the primary trainer for quality and ethics training.

Controlled Document

5.7.5 Management must approve external sources for training, instruction, or certifications.

5.7.6 It is the responsibility of Management and the Laboratory Director to assure that if an external source of training is required that the technician receive this type of training before being assigned tasks of this nature.

5.8 Designing Specific Project Training Programs

It is the responsibility of the Laboratory Director, Laboratory Supervisors, and the QAO to review technical training requirements for all specific projects and if additional training is required, initiate action that would satisfy the training requirements.

5.9 Assessing Training Effectiveness

5.9.1 Training effectiveness shall be assessed by the acceptability of the internal technical controls applied to the systems.

5.9.2 Training effectiveness shall be assessed by feedback from technicians through questionnaires.

5.9.3 Training effectiveness shall be assessed by performance evaluations (internal and external).

5.9.4 Training effectiveness shall be assessed by written examinations.

5.9.5 Training effectiveness shall be assessed by proficiency checks periodically. The technician shall list the steps of the method checked and perform test calculations.

5.9.6 Training effectiveness shall be assessed by technician analysis of blind samples.

5.9.7 For technicians responsible for data reduction shall be given sets of data to validate. Proficiency shall be judged in terms of completeness and accuracy.

5.9.8 All proficiency checks shall be documented and retained in personnel files.

5.9.9 As necessary, oral interviews shall be used to determine whether training efforts were effective.

Controlled Document

5.9.10 All assessments and interviews are the responsibility of the Lab Supervisors and/or Lab Directors.

5.9.11 It is the responsibility of the QAO and the Lab Director to monitor, review, and initiate changes and improvements to the training program as required.

It is the responsibility of each analyst and technician to meet the strains of the workload and the needs of our customers by training as a secondary or back-up analyst on each routinely used method. This is necessary to maintain continuity of services through vacations, sick leave, and for other times when the primary analyst is unable to perform the assigned tasks. Each back-up analyst must demonstrate competence by completing an initial demonstration of capability study and have documentation on file.

5.10 Required Reading

5.10.1 It is the responsibility of each employee to read the most current version of the Quality Assurance Manual and the NELAC standards. This shall be done within the employees first 3 months of employment and annually thereafter.
5.10.2 Documentation of the reading of these documents shall be maintained in the employee's Quality Training file.
5.10.3 Written examinations shall be required verification and documentation that each employee has read and understood the Quality Assurance Manual and the NELAC standards.

6.0 PROCUREMENT OF ITEMS AND SERVICES

6.1 Purchasing

6.1.1 Purchasing and procurement for Laboratory consumables is the responsibility of the Office Manager and/or designees authorized by the Officer Manager, known as the Purchasing Agent.

6.1.2 Analyst/Technicians are responsible for the stock supplies for the work tasks to which they are assigned. Purchase requisition forms are required to initiate a purchase. Any employee may initiate a purchase requisition for routine, approved consumables without the signature of the Lab Supervisor. Routine orders consist of standards, reagents, and other approved consumables. Non-routine orders are standards that are ordered on an as-needed basis or a deviation from standards currently being utilized in the laboratory. No analyst may order non-routine products without authorization. The request for non-routine products must be authorized by

Controlled Document

signature of the Lab Supervisor or the Lab Director who reviews for meeting specification requirement. The approved request is then forwarded to the Purchasing Agent. The requisition form must be filled out properly with all information necessary to purchase the correct consumable.

6.1.3 The Purchasing Agent initiates a Purchase Order, checks the approved vendor list if a specific consumable product and manufacturer is not requested, then requests pricing from various approved sources (if available, a minimum of three quotes). The Purchasing Agent shall accept the lowest priced quote for the material described on the requisition form. The Lab Supervisor, who must check product specifications to determine if the substitute is acceptable, shall accept no substitutes in quality without authorization. Higher price quotes may be accepted if product quality does not meet the minimum required specifications. The Lab Director and Management must approve these deviations.

6.1.4 The Purchasing Agent shall constantly verify pricing and at least annually request quotes from at least three vendors for all high consumable items.

6.1.5 Contract Prices shall be entered into the column on the Purchase Order. These prices shall be checked by Accounting to verify when the invoices are received.

6.1.6 Purchase orders, receiving documents and accompanying product certifications and specifications are retained by the Purchasing Agent or Officer Manager as part of the receiving control procedures and also are a record of the information necessary to identify and trace the material being received.

6.2 Approved Vendor Selection/Subcontracting Analytical Services

6.2.1 All consumable material (standards, solvents, reagents, glassware, office supplies, instrument consumables, and general lab consumables) shall be purchased from the Approved Consumables Vendor List. All instrumentation shall be purchased from the Approved Instrumentation Vendor List.

6.2.2 All Vendors/Subcontractors selected as suppliers shall be approved by the Lab Director based on the following criteria:

1) Vendor must follow a quality system acceptable to NELAC's requirements (ISO-9000, A2LA, ANSI/ASQC or NELAC).
2) Vendor must provided a product that meets or exceeds the requirements needed for the use that it is intended.

Controlled Document

port.

6) Vendors/Subcontractors of testing or analytical supplies and materials used in testing are regarded as a resource to an extension of the laboratory organization. Micro Methods Laboratory is responsible for the subcontractor's work, except in the case where the client or a regulatory authority specifies which subcontractor shall be used. The standards for quality, therefore, imposed on vendors are the same standards imposed on the laboratory. Micro Methods shall use only those outside support services and supplies that are of adequate quality to sustain confidence in the laboratory's tests.

7) Prior to submitting work to the subcontractor, the client shall be contacted and advised of the subcontracting arrangement, first by phone and if approved shall send notification in writing for approval by the client, when necessary.

8) Work requiring NELAP accreditation shall only be sent to NELAP accredited laboratories with accreditation for the scope of work subcontracted. The subcontracted laboratory must also meet applicable statutory and regulatory requirements for performing the work and submitting the results of the tests performed.

9) All testing performed by the subcontractor shall be reported using the subcontractor's letterhead and shall clearly indicate any non-NELAP accredited work.

10) The Office Manager and Sample Custodian maintain a list of the subcontractors that have been approved to provide analytical services for Micro Methods Laboratory.

6.3 Changes to Procurement Documentation

6.3.1 Changes to Procurement Documentation shall be done in accordance to procedures established by management consistent with controlled documentation policies. Procurement documents are controlled documents subject to all appropriate guidelines, as required in Section Seven of this Manual.

6.3.2 The Purchasing Agent and the Office Manager shall maintain procurement documentation of all items affecting the quality of the test results and data output.

6.4 Control of Incoming Material and Standards

6.4.1 The Purchasing Agent receives the incoming testing materials and standards that have been ordered. The agent inspects the shipping container for visible damage

Controlled Document

while the carrier is present. Packages shall be rejected that have obvious outward damage. If rejected, the agent, identifying the material and the reason for the rejection, shall initiate a Material Rejection Form. The agent shall unpack the container and again visually inspect the contents. The agent shall check the package marking and the packing slip against the approved purchase order. If a discrepancy is detected that could affect analytical or testing accuracy or precision, the material shall be rejected. If accepted by the agent, routine consumables shall be stored in their proper areas. Non-routine consumables, such as standards and reference materials shall be forwarded to the person who ordered that material or to the Lab Director or Supervisors. If accepted the material or standard shall be labeled (date received and date the material or standard is opened for use along with whomever received the standard or reagent – initials required). The person receiving the standard with the date received for ready retrieval shall initial the Certificate of Analysis. The information about the standard, reagents, or reference material shall be recorded in a standards inventory log (standard name, manufacturer, date received, date opened, expiration date, lot number, catalogue or order number, and standard control ID name). If the material is rejected, a corrective action form shall be initiated.

6.4.2 Standards and materials shall not be used after the manufacturer's recommended expiration date. The Laboratory shall not use reference material if more than 5 years from receipt date if an expiration date is not known.

6.4.3 Materials are stored according to recommendations by the manufacturer or EPA in "last in – last out" order. Materials are used or issued on a "first in – first out basis. Materials with a finite shelf life are plainly marked with an expiration date.

6.4.4 Most standards, solvents, glassware, and other consumables are purchased with certificates of analysis from the distributor. For those that have no certifications, the laboratory shall perform incoming inspections as prescribed by EPA or shall use an approved sampling plan to satisfy the inspection and specification requirements for the material. Written inspection instruction shall be used in this case. Full documentation on a corrective action form (no certificate of analysis) is required.

6.4.5 Although it is a requirement of this quality system to use vendors that employ an approved quality system which uses independent auditors, there may be occasions when Micro-Methods' QAO shall need to perform an audit of a vendor's quality system. When this occurs, the Quality System Survey Evaluation Check List is used to evaluate the system.

Controlled Document

7.0 DOCUMENTS AND RECORDS

7.1 Definitions of Document and Record

7.1.1 For the purposes of these requirements a document is defined as a volume of information that describes, defines, specifies, reports, certifies, requires, or provides data or results pertaining to an environmental program. A record is defined as a completed document that provides objective evidence of an item or process. A document, which contains objective information, can become a record once it is complete and then is identified as a record.

7.2 Document Life Cycle/Document Revisions

7.2.1 All controlled documents shall contain a Document Control Number, a current revision number, the date of the revision, and the date the document/procedure was implemented (in the document header) and shall be approved by the Lab Director and the QAO. All controlled documents shall be in effect for a maximum period of one year from the revision date. The controlled document shall be reviewed prior to the end of the effective period and shall either be revised (if changes are required) or shall be approved for use. For bench sheets and work sheets only the current revision is required for use. Revisions to controlled documents are required whenever there is a change in laboratory operations, standard requirements, instrumentation, or changes to methods or procedures.

7.3 Identifying Quality Related Documents and Records Requiring Control

The elements of the Quality Systems to which document control is applied are listed below.

7.3.1 SOPs include, but are not limited to:

1) Sampling Procedures
2) Calibration Procedures
3) Analytical and Test Procedures
4) Auditing Procedures
5) Data Validation Procedures
6) Data Collection Procedures
7) Reporting Procedures
8) Management Procedures

Controlled Document

7.3.2 The Quality System Manuals

7.3.3 The Quality Assurance Manuals

7.3.4 Laboratory Notebooks and Logs

7.3.5 Calibration and Preventive Maintenance Documents

7.3.6 Reports include, but are not limited to:

1) Analytical and testing reports
2) Validation Reports
3) Internal Audit Reports
4) External Audit Reports
5) Vendor Reports
6) Chain of Custody Documentation.

7.3.7 Technical change Documents
7.3.8 Corrective Action Documents
7.3.9 Planning Documents
7.3.10 QA Project Plans
7.3.11 Field Sampling Notebooks and Logs
7.3.12 Personnel Qualifications
7.3.13 Technical and Readiness Reviews Results
7.3.14 Analytical QC Data
7.3.15 Chemical Hygiene Plan
7.3.16 Purchasing Documents
7.3.17 Computer Generated Records (Raw Data, Hardcopy, and backups) and CDs
7.3.17 Document Master Files
7.3.18 Controlling Documents

7.3.19 All controlled documents shall be assigned a Document Control Number (DCN), unique and serially ascending, recorded in Document Control Master File. Document control is the responsibility of the Document Control Officer (Officer Manager or designee). Controlled documents shall follow tracking and custody procedures for record of possession for the duration of the life cycle of the data.

7.3.20 The Document Control Master File shall contain the following information:

Controlled Document

1) Document Control Number (DCN)
2) Client
3) Lab File Number
4) Revision
5) Date
6) Technical Change Number
7) Document Control Officer

7.4 Controlled Document Handling/Record Maintenance

7.4.1 Controlled documents shall be accessible to Management and Lab Supervisors and Analysts assigned to specific tasks related to these documents. Strict custody and possession trails are followed. Employees needing controlled documents are required to "sign out and sign in" the document. Documents must be returned to the file storage area as soon as possible.

7.4.2 Records and documents shall be traceable from initiation of the work plan until disposition of the data. Records shall reflect trace ability.

7.4.3 To facilitate accessibility and use, record formats shall comply with the format required for analytical data by Good Automated Laboratory Practices (refer to Chapter 8.0 of this document) (GALP) (ref 5).

7.4.4 All internal documents shall be issued and distributed by a designee of Management.

7.4.5 Data shall only be transmitted and released to the primary contact or client who requested analytical services. Fax and e-mail transmittals shall only be done at the request of the client. Standard courier services shall be used for delivery of data. Confidentiality is a main concern. Only authorized employees shall submit verbal results. Results submitted verbally can be used only for information and not the official expression of laboratory results. Only hardcopy results, fax or email results are official laboratory results.

7.4.6 Controlled files shall be maintained in locked; metal, fireproof file cabinets for a minimum of six months or as long as required. Files shall then be moved to a permanent storage area for ten a minimum as required by LELAP our primary accrediting body. Micro-Methods makes every attempt to maintain all files for longer periods; however, lack of available storage space may preclude this practice.

Controlled Document

7.4.7 Files shall be stored and handled carefully, so as to minimize potential for damage or deterioration. Adequate pest, temperature, and humidity controls shall be applied to protect stored files.

7.4.8 Management is responsible for providing the resources to properly maintain the controlled files and records, including computer generated data for a minimum of seven years. The Document Control Officer is responsible for reviewing documents for disposal, and contacting clients concerning their records prior to disposal to determine if the client may want the documents scheduled for disposal. The DCO shall retain and maintain all records of disposition of documents. Management shall assure that a system of document control includes simple retrieve ability by authorized personnel. Document disposition shall be the responsibility of the Document Control Officer, Office Manager, or designee and shall have the approval of the Lab Director.

7.4.9 Disposition of controlled records and documents shall be strictly controlled, so as to protect the confidentiality and proprietary rights of the client.

7.4.10 Following the issuance of the final report to the client, the final report shall remain unchanged. If problems with the report are discovered by the client or during internal data audits the reports shall be revised and the revision issued, but the original report must be left intact. Revisions to the report must meet the LAC 33 requirements. (See *SOP General Office Procedures* DCN 6000).

7.4.11 Archived Quality System Documents (i.e. Quality Assurance Manual, Quality Management Plans) are maintained in hardcopy, marked Archived (original signed and approved documents) by the DCO for a minimum of 7 years after the documents have been revised or archived.

7.4.12 Original signed and approved technical SOPs (in use) are also maintained by the Lab Supervisors. Copies only are issued for work or when requested for review by auditors or clients.

7.5 Use and Maintenance of Laboratory Notebooks

7.5.1 It is the responsibility of the QAO to issue notebooks to employees whose tasks require documentation of analytical or support operations. Notebooks are the physical property of Micro Methods and their contents are to be kept confidential. The employee who signs for and receives a notebook must safeguard it and see that it is returned for cataloging and storage after completion. Notebooks must be surrendered at termination or when the notebook is completely filled. Notebooks are

Controlled Document

issued to the Lab Supervisors (when needed) for recording testing information. Entries must be permanent, clear, complete, and made as soon as possible after the event being recorded. The person or persons involved in the work must be identified and proper witnessing is essential. The notebooks are to be used to record all communications and work related to the analytical activities of the laboratory for permanent record. Employees are also issued notebooks as personal diaries for daily accountability.

7.5.2 Lab supervisors will periodically inspect lab notebooks (not to exceed annually). The notebook contains space for verification signatures. The following 10 point checklist is to be used by the supervisors when reviewing notebooks to determine if the notebooks and bench-sheets are being kept properly:

Are the notes written using a black, indelible ink ballpoint pen?
Is the handwriting clearly legible?
Is the table of contents up to date?
Is each entry signed and dated unambiguously?
Does each section have a clear, grammatical heading that describes the work reported therein?
Are entries written in the first person, telling who did the work?
Is the work described completely so that the writer can understand it without additional explanation?
Is the analyst "thinking in the notebook?"
Are observations and measurements entered immediately and directly into the book, not on scraps of paper to be transcribed later?
Are entries witnessed correctly?
Is the notebook stored safely when not in use?

7.5.3 Notebooks will be stored in a secured area maintained at about 23-25 degrees C and relative humidity of 45 to 75 per cent. They are catalogued according to the sequential numbering system and when they were completed. It is the responsibility of the QAO to maintain and store these documents.

7.5.4 Corrections to data contained in lab notebooks or analyst's notebooks will be made by:

1) Drawing a single line through the error with a blue or black ballpoint pen.
2) Inserting the correction.
3) Initialing and dating the correction.
4) When clarification is needed, record the reason for changes to the data.

Controlled Document

7.6 Technical Guidance Documents

7.6.1 Preparation and review of technical guidance documents, such as Project Planning documents, Quality Assurance Project Plans, Sampling and Analysis Plans, and Standard Operating Procedures are the responsibility of Management with the assistance of the Lab Director, QAO and technical staff. Management shall assign projects to qualified staff that are responsible for establishing a data collection and assessment program, which is defensible and meets the needs of the user.

7.6.2 Technical guidance documents are written to implement and assess the project and its data requirements and results based on conformance to the Quality System and Management Plan.

7.6.3 When the plans and technical documents are deemed appropriate for the intended use, a representative of Management, Lab Director, and QAO shall approve and authorize the documents for general use.

7.6.4 The Lab Director and QAO shall review all technical documents annually for suitability. Unsuitable documents shall be retired or revised.

7.6.5 Whenever a change is made to a controlled document, the QAO shall issue the new document together with a Technical Document Change Notice to notify the user that his document has been changed or revised and specifically what the change is. This notice shall accompany the revised or changed document for its life cycle. SOPs shall include a reference to "modified" where applicable. Refer to Technical Document Change Notice Form below.

7.6.6 To facilitate the use of technical documents formats consistent with NELAP/LELAP and EPA shall be used for similar types of documents.

7.7 E-Data

7.7.1 Following project completion and data assembly and final reporting, all hard copy raw data is included in the project file as required by the reporting requirements. The hard copy of the project file is the official record. The hard copy should include hard copies of electronic records when required by the project. It is absolutely essential that the hard copies placed into the project file accurately reflect the electronic data. E-data must be maintained in its original electronic format. It is the policy of Micro Methods that:

Controlled Document

1) e-data must be maintained in a logical and documented sequence such that retrieval, if necessary, and readily available.
2) e-data must be securely filed such that there can be no unauthorized amendment of the data and that the integrity of the stored data is maintained.
3) all raw and processed e-data shall be stored in appropriate manufacturer's format, uncompressed, and with no security codes.
4) the data shall include all necessary data files for a complete reconstruction of the submitted hardcopy and electronic deliverable data package (where required).
5) All associated raw data files in the instrument manufacturer's software format must be submitted (where required) if those files contain data or instrumental parameters regarding any analysis and/or correction factors applied to an instrument or analytical results generated on the instrument.
6) archived e-data and the associated project file shall be maintained 7 years.
7) changes to electronic documents shall include revision numbers, date revised, revised by whom (header info). Previous documents shall be maintained originally intact.

7.8 Logbook Maintenance and Archival

7.8.1 Refer to *SOP Laboratory Notebooks DCN: 3003*. It is the responsibility of the Lab Supervisors to maintain all logbooks, including analysis run logs, maintenance logs, and preparation logs while in use. The analysts must enter all relevant and required information into the logbooks as permanent record. Custom bound logbooks are created whenever specific information is required.

7.8.2 It is the responsibility of the Lab Supervisors, Lab Director, and/or the QAO to determine the required information that shall be recorded in the logbooks.

7.8.3 Logbooks must be archived according to procedures for controlled documents and retained for 7 years.

7.9 Sample Delivery Group File Organization, Preparation, and Review

7.9.1 At sample log in, the sample custodian generates a Work Order Number for the delivery group in the LIMS. This identification number is used throughout the analytical process and is used as the sample group ID for entire sample group. Individual sample IDs are generated at the same time, each is a consecutive unique number.

Controlled Document

7.9.2 Sample delivery groups with IDs already determined are entered into the LIMS accordingly.

7.9.3 The Work Order number is recorded on the sample receipt sheet, which is attached to the COC, along with any instructions for the group, and all transportation information.

7.9.4 The individual Lab ID numbers are stamped or handwritten by the sample custodian on the COC for data review purposes who makes copies to route to each lab supervisor for work implementation review.

7.9.5 If there are no problems with the work, the Sample paperwork is routed to the analysts.

7.9.6 The original COC, Sample Receipt form, sample instructions, and all transportation information are routed to the Office Manager who creates a file for the group.

7.9.7 Each work area performs the analyses, enters results into the LIMS for which they are responsible, then attaches the raw data to the Copies of COC, Sample Receipt form, etc... and routes the data to the Lab Supervisor or Peer for review.

7.10 Compliance Assurance

7.10.1 Management shall ensure that records generated during the planning, implementation, and assessment phases along with all analytical work reflect a complete data product, which meets and fulfills statutory, EPA, and the client's requirements. This shall be accomplished by comparing the resulting documents with the data quality objectives, by reviewing all phases of the process, verifying, and by reviewing all phases of the process, verifying, and validating that all systems were in control, all results within the process were acceptable according to written work plans, with all work being completed in a timely manner. All documentation related to the project shall be reviewed by documentation related to the project shall be reviewed by peers for operational errors, validated by Supervisors or the Lab Director, and evaluated by QAO before release.

7.10.2 All Corrective Action reports shall be reviewed by QAO and the Laboratory Director to determine the effectiveness of the corrective action taken. Further changes shall be discussed to improve the quality of the analytical measurement system as deemed necessary and appropriate. All actions shall be documented.

Controlled Document

7.11 Technical Document Change Notice Form

7.11.1 Refer to Section 7.6 for use of this form.

Micro Methods Laboratory, Inc.
Technical Document Change Notice

Date_____

TDCN no._____
Effective Date_____

_____**Method**
_____**Quality Assurance Manual**
_____**Quality Management Plan**
_____**Other Document Type**

Document Title:_____
Change requested by:_____
Change from: _____
_____
_____
_____
Change to:_____
_____
_____
_____
Reason for Change:_____
_____
_____
_____
Comments:_____
_____

Approved By:

_____/_____ _____/_____
Lab Director Date QAO Date

Distributions:

_____/_____ _____/_____
Organics Date Inorganics Date

_____/_____ _____/_____
Management Date Other Department Date

Controlled Document

8.0 COMPUTER HARDWARE, SOFTWARE, and INFORMATION POLICIES

The Laboratory Information Software in use is the Promium Element system, installed in June 2006. The system is networked and offers many features that act as aids in increasing throughput and efficiency within the laboratory. In addition this LIMS provides essential security and control necessary for effective management of an automated laboratory. Micro Methods shall operate all automated laboratory operations according to the practices and guidelines of data management established in *EPA 2185 – Good Automated Laboratory Practices.*

8.1 Laboratory Information Management

For all raw data that is collected, analyzed, processed or maintained, it is the responsibility of management to:

8.1.1 Ensure that all personnel entering data into the LIMS clearly understand the functions they are to perform. LIMS users shall be provided with clear operating instructions, manuals, and SOPs to enable them to perform assigned system functions. Sufficient training to clarify these instructions is provided to users. Users who are able to meet operation requirements are eligible to perform LIMS functions.

8.1.2 Ensure that the Quality Assurance Officer and the LIMS Administrator monitor activities relating to the LIMS and its use jointly.

8.1.3 Ensure that adequate resources and personnel are budgeted and available as scheduled. Employees shall be cross-trained to perform critical LIMS functions. It is the responsibility of management to review training records to maintain awareness of the current status of training received and needed, observe job performance to determine the performance levels of the staff and possible needs for additional training, and examine project schedules and work backlogs to determine the adequacy of current staff and whether the LIMS is receiving proper staffing support.

8.1.4 Receive and evaluate reports of inspections of the LIMS and audits of the LIMS raw data and ensure that appropriate corrective actions are promptly taken in response to any noted deficiencies. All reports related to the LIMS should be reported to management in a timely manner. Management should sign and date the report.

8.1.5 Approve the standard operating procedures that establish the procedures to ensure data integrity, ensure that deviations from the established SOPs and applicable GALP provisions are appropriately documented and that corrective actions shall be taken when required and documented, and approve all changes to SOPs.

8.1.6 Assure that each applicable GALP provision is followed.

Controlled Document

8.2 Personnel Responsibilities LIMS

When LIMS data are collected, analyzed, processed, or maintained, it is the responsibility of Management to ensure that all LIMS support staff and users:

8.2.1 Have adequate education, training, and experience to perform assigned LIMS functions.

8.2.2 Have on site a current record of their training, experience, and job description, including related LIMS training.

8.2.3 Have sufficient number of trained employees for timely and proper operation of the LIMS.

8.3 Quality Assurance Responsibilities / LIMS

8.3.1 When LIMS data are collected, analyzed, processed or maintained, it is the responsibility of the LIMS Administrator and the QAO to monitor LIMS functions and procedures. This unit shall:

1) Be entirely separate from and independent of other LIMS users, and shall report directly to the Lab Director.
2) Have immediate access to LIMS data, SOPs, and other records pertaining to the operation and maintenance of the LIMS.
3) Inspect the LIMS at intervals not to exceed annually to ensure the integrity of the LIMS data. The result of this audit should be compiled into a report that includes the description of the LIMS operation inspected, the dates of the inspection, the person performing the inspection, all findings and any scheduled dates for re-inspection. In addition, any problems that might potentially affect data integrity must be reported to management.
4) Determine that no deviations from approved SOPs were made without authorization and sufficient documentation.
5) Perform, at minimum, quarterly audits of the LIMS raw data to ensure trace ability of measurements and data integrity.
6) Ensure that the responsibilities and procedures applicable to the Quality Department, the records maintained by the Quality Department, and the method of indexing such records are documented and are maintained.

Controlled Document

8.4 LIMS Raw Data

It is the responsibility of management to ensure that:

8.4.1 LIMS Raw Data and the storage media on which they reside are identified and documented. This documentation must be included in the laboratory's SOPs.

8.4.2 The individuals responsible for entering and recording raw data into the LIMS are uniquely identified when the data are recorded, by the security of the LIMS, which requires a valid login name and password. The times and dates of the operations are recorded in the LIMS.

8.4.3 When instruments directly transfer data to the LIMS, the instrument has a unique ID and records analysis date and time.

8.4.4 Procedures and practices to verify the accuracy of LIMS raw data are documented in the laboratory SOPs, and managed according to documented procedures.

8.4.5 Procedures and practices for changes to LIMS raw data are documented and tracked in the LIMS and provide the evidence of change, preserve the original recorded documentation, changes are dated, indicating the reason for the change, identify the person who made the change and if different, the person who made the change.

8.5 Software

When software is used to collect, analyze, process or maintain LIMS data, it is the responsibility of management to ensure that SOPs are established, approved, and managed for the following:

8.5.1 Development of methodologies that are based on the size and nature of software being developed.

8.5.2 Testing and quality assurance methods to ensure that all LIMS software accurately performs its intended functions, including:

1) Acceptance criteria, tests to be used, personnel responsible for conducting the tests, documentation of test results, and test review and approval.

2) Change control methods that include instructions for requesting, testing, approving, documenting, and implementing changes. When indicated,

Controlled Document

change control methods shall also include reporting and evaluating problems, as well as implementing corrective actions.

3) Version control methods that document the LIMS software version currently used.

4) Maintaining a historical file of software, software operating procedures (manuals), software changes, and software version numbers.

8.5.3 Documentation is established and maintained to demonstrate the validity of software used in the LIMS:

1) For existing and commercially available LIMS, minimum documentation shall include, but not be limited to: a description of the software and functional requirements; listing all algorithms and formulas, and as they occur, testing and quality assurance, installation and operation, maintenance/enhancement, and retirement.

2) For new LIMS development or modification of existing LIMS, documentation shall cover all phases of the generic software life cycle.

8.5.4 All documentation and records must be readily available where the software is used, and SOPs for the operations are readily available in the laboratory areas where the procedures are performed.

8.5.5 A historical file of software and the documentation specified in 8.5.2 are retained according to the procedures outlined in 8.9

8.6 Password Policy

8.6.1 Passwords are a very important aspect of computer security. Passwords are used for various computer and security related purposes. The most common uses are laboratory entrance, LIMS accounts, and email accounts. They are the frontline protection for all data generated by the laboratory. Poorly chosen passwords may result in the compromise of laboratory data and possibly the network.

8.6.2 Because of this, all employees are responsible for taking the appropriate steps to select and secure their passwords, using the guidelines established in SOP *Administrative Procedures DCN: 3025.*

8.6.2.1 All system level passwords (administration accounts) must be changed on a quarterly basis.

Controlled Document

8.6.2.2 All user-level passwords (e.g. email, web, desktop computer, etc.) must be changed every six months. This is the responsibility of the analyst to initiate. The System Manager will assist in this change.

8.6.2.3 Passwords must never be written down or inserted into email or any other forms of electronic communication.

8.6.2.4 If an account or password is suspected of being compromised, report the incident to the Lab Director, System Manager, or QAO to initiate password change.

8.7 Anti-Virus Policy

8.7.1 All networked PC-based lab computers with Internet connections have anti-virus software installed and are scheduled to run at regular intervals. The scheduled anti-virus software updates are performed by the network server and downloaded to each workstation automatically.

8.7.2 All computers suspected of being infected by a virus must be removed from the network until they are verified virus-free by IT support.

8.7.3 It is the responsibility of the System Manager and Lab Supervisors to ensure that the anti-virus software is run at regular intervals to keep the computers virus free.

8.7.4 Any activities with the intention to create and/or distribute malicious programs (Trojan horses, email bombs, viruses, worms, etc..) into the laboratory's network are prohibited.

8.8 Email Policy

8.8.1 Micro Methods Laboratory has established this policy with regard to the acceptable use of company provided electronic messaging systems, including but not limited to email and instant messaging. Email and instant messaging are important and sensitive business tools. This policy applies to any and all electronic messages composed, sent or received by any employee or by any person using company provided electronic messaging resources.

8.8.2 Micro Methods Laboratory sets forth the following policies, but reserves the right to change them at any time as may be appropriate or required under the circumstances:

- Micro Methods Laboratory provides electronic messaging resources to assist in conducting company business.
- All messages composed and/or sent using company provided electronic messaging resources must comply with company policies regarding acceptable communications.
- Micro Methods Laboratory prohibits discrimination based on age, race, gender, sexual orientation or religious or political beliefs. Use of electronic messaging

Controlled Document

resources to discriminate for any or all of the aforementioned reasons is prohibited.

- The electronic messaging system(s) is (are) company property. All messages stored in company provided electronic messaging system(s) or composed, sent or received by any employee are the property of Micro Methods Laboratory. Furthermore, all messages composed, sent or received by any person using company provided equipment are the property of Micro Methods Laboratory. Electronic messages are NOT the property of any employee.
- Upon termination or separation from the company, Micro Methods Laboratory will deny all access to electronic messaging resources, including the ability to download, forward, print or retrieve any message stored in the system, regardless of sender or recipient.
- Each employee will be assigned a unique email address that is to be used while conducting company business via email.
- Accessing external email systems from company provided equipment is discouraged. This includes, but is not limited to, Yahoo! Mail, Hotmail, MSN Mail, AOL, Earthlink and other email services offered by Internet service providers.
- Employees are prohibited from automatically forwarding electronic messages sent through company provided systems to external messaging systems.
- Micro Methods Laboratory reserves the right to intercept, monitor, review and/or disclose any and all messages composed, sent or received
- Micro Methods Laboratory reserves the right to alter, modify, re-route or block the delivery of messages as appropriate. This includes but is not limited to:
    - Rejecting, quarantining or removing the attachments and/or malicious code from messages that may pose a threat to company resources.
    - Discarding attachments, such as music, considered to be of little business value and of significant resource cost.
    - Rejecting or quarantining messages with suspicious content.
    - Rejecting or quarantining messages containing offensive language.
    - Re-routing messages with suspicious content to designated company employees for manual review.
    - Rejecting or quarantining messages determined to be unsolicited commercial email (spam).
    - Appending legal disclaimers to messages.
- Electronic messaging resources may be used *infrequently* and *occasionally* for personal use. Excessive personal use may result in disciplinary action, including but not limited to the loss of this privilege and/or termination. Company provided electronic messaging resources may not be used for the promotion or publication of one's political or religious views, the operation of a business or for any undertaking for personal gain.

Controlled Document

- Micro Methods Laboratory permits the use of instant messaging programs. The policies in this document apply equally to instant messages as well as email.
- Employees authorized to use instant messaging programs will be advised specifically on which instant message program(s) are permissible and which ones are not.
- Employees authorized to use instant messaging programs will be assigned a unique instant messaging identifier, also known as a buddy name, handle or nickname.
- Employees are prohibited from conducting employee business from any non-company provided email or instant messaging accounts.
- The unique email addresses and/or instant messaging identifiers assigned to an employee are the property of Micro Methods Laboratory. Employees may use these identifiers only while employed by the company. The right to use these identifiers terminates upon termination or separation from the company.
- Micro Methods Laboratory employs sophisticated anti-virus software. Employees are prohibited from disabling anti-virus software running on company provided computer equipment.
- Any employee who discovers a violation of these policies should immediately notify the Lab Director.
- Any employee in violation of these policies is subject to disciplinary action, including but not necessarily limited to, termination.

8.9 LIMS Security

8.9.1 Micro Methods makes every effort to maintain security of data within the LIMS. Security of the LIMS focuses on three security objectives:

1) Integrity

2) Availability

3) Confidentiality

8.9.2 Each user chooses a password for access that can be tracked throughout the system. Passwords are changed periodically, and every time there is suspicion of a breech in security. The master list of passwords for the LIMS is accessible only to the Lab Director, the LIMS administrator and the QAO. Users are required to log in, enter the data or perform their tasks, then log out of the system. Only the Lab Director, the LIMS administrator, and the QAO have super-user capabilities. Virus detection is performed frequently and updated at recommended intervals. Users are informed of the necessity and importance of confidentiality in the work place and out side the

Controlled Document

workplace. Only reputable and trusted technicians are used to service the system. Data Solutions & Networking Support, Inc. maintains the network.

8.9.3 The Lab supervisors are responsible for the security of their lab sections, and the lab's impact on the computer network. In the event that the Lab supervisor is unable to fulfill his/her duties, the lead analysts must assume this responsibility. Where security policies and procedures are not clearly defined, the lab supervisors must do their utmost to safeguard the laboratory from security vulnerabilities.

8.9.4 Data Solutions & Networking Support, Inc. provides network support. This organization has the responsibility of maintaining the firewall device (or software) between the corporate network and the Internet. The System Manager is responsible for maintaining the LIMS and instrument software and all lab computer hardware.

8.9.5 The System Manager, Lab Director, and QAO reserve the right to interrupt lab network connections that negatively impact data production or quality or pose a security threat or risk.

8.9.6 Data Solutions & Networking Support, Inc. maintains all IP addresses, routed within the network.

8.10 Hardware

When LIMS data are collected, analyzed, processed, or maintained, it is the responsibility of management to ensure that the LIMS hardware and communications components are:

8.10.1 Of adequate design and capacity, and a description is documented and maintained

8.10.2 Installed and operated in accordance with manufacturer's recommendations and, at installation, undergo acceptance testing that conforms to acceptance criteria established by the installer. SOPs shall be established and maintained to define the acceptance criteria, testing, documentation, and approval required for changes to LIMS hardware and communications components.

8.10.3 Adequately tested, inspected, and maintained to insure proper functioning. SOPs for and documentation of these routine operations shall be maintained. Documentation of non-routine maintenance shall also include a description of the problem, the corrective action, acceptance criteria, and the acceptance testing performed to ensure that the LIMS hardware and communications components have been adequately repaired.

8.10.4 In the event that hardware is upgraded the older hardware necessary to read older laboratory archived files be retained and maintained as part of the document retention process.

Controlled Document

8.11 Comprehensive Testing

When LIMS data are collected, analyzed, processed, or maintained, laboratory management shall ensure that comprehensive testing of LIMS performance is conducted, at least once every two years at minimum, whenever there are updates or modifications to the computer system or software. Tests shall be documented and available for audits of the system.

8.12 Record Retention

Management shall ensure that retention of LIMS data, documentation, and records pertaining to the LIMS are not less than ten years from the date of release of the report or document as required by LELAP. SOPs for retention must be documented, maintained, and managed as permanent record. If contract requirements are for longer periods of retention, these requirements shall be met.

8.13 Facilities

When LIMS data are collected, analyzed, processed, or maintained, it is the responsibility of management to ensure that:

8.13.1 The environmental conditions of the facility housing the LIMS are regulated to protect against LIMS data loss.

8.13.2 Environmentally adequate storage capability for retention of LIMS data, storage media, documentation, and records pertaining to the LIMS are provided.

8.14 Standard Operating Procedures for the LIMS Data

Laboratory management has the responsibility to ensure that:

8.14.1 SOPs include or address where applicable, the following topics:

1) LIMS raw data and storage media

2) LIMS raw data verification

3) LIMS raw data change control

Controlled Document

4) Software development methodologies (not applicable at this time)

5) Software testing and quality assurance

6) Software change control

7) Software version control

8) Software historical file

9) Hardware changes

10) Hardware testing, inspection, and maintenance

11) Records retention

SOPs are reviewed annually at minimum to ensure that they accurately reflect the current procedures.

SOPs are authorized by signature of approved signatories, in accordance with section 8.1.5.

A historical file of SOPs is maintained.

9.0 PLANNING

9.1 Customer Identification

9.1.1 Customer or client is defined as any individual or organization for which analytical services are furnished or work performed in response to defined requirements and expectations. Client and customers are acquired through solicitation for work through personal contact, advertisement, and client referrals.

9.2 Defining Customer Needs and Requirements

9.2.1 Direct communication between a Management Representative and the customer is required before any work is to be performed for the potential client. Assessment of the needs of the client, particular methods, QA/QC requirements, and information pertaining to quantity of samples, matrix types, hazards, methods, and turn around times shall be discussed. Clients often request specific methods be used. In the event that the laboratory is unable to perform the requested method, the client shall be

Controlled Document

notified prior to accepting samples. A request for an alternate method shall be made to the client.

9.2.2 Information shall be gathered to adequately identify the needs and expectations of the client in terms of both technical and quality goals. Direct communication with the client shall help to ensure a clear understanding of the client's needs and expectations, and the analytical services to be provided by the Laboratory.

9.2.3 All non-routine projects involving the acquisition of analytical data by the Laboratory shall be planned using the Guidance in EPA QA/G-4 Guidance for the Data Quality Objectives Process. Non-routine projects shall be documented in a Quality Assurance Project Plan from EPA QA/R-5, EPA Requirements for Quality Assurance Project Plans for Environmental Operations.

9.2.4 The Lab Director and the QAO shall approve all plans.

9.2.5 Management shall be responsible for assigning the most qualified staff to the projects undertaken.

9.2.6 Routine planning tasks, planning requirements shall be documented in the form of work plans, schedules and QAPPs. Specific work or project instructions shall be documented.

9.2.7 When the client does not specify the method to be used or where methods are employed that are not required, the methods used shall be available to the client and other recipients of the relevant reports.

9.2.8 The laboratory shall select appropriate methods that have been published either in international, regional or national standards, or by reputable technical organizations, or in relevant scientific texts or journals, or as specified by the manufacturer of the equipment when the client does not request a specific method of analysis. The final report contains the reference method used.

9.2.9 The laboratory rarely accepts R&D projects, specializing in environmental analyses. In the event that a client requests an analysis for which there is no published method available, the methods adopted by the laboratory shall be used only if they are appropriate for the intended use and if they have been validated by the laboratory. The client must agree in writing to the use of any method developed for the client or whenever an unpublished method is used. The laboratory shall be responsible for

Controlled Document

performing the method according to the developed procedure. The client shall assume the responsibility and liabilities of the use of the procedure.

9.2.10 If the client requests a method that is not appropriate for the parameter or is out-of-date, the Lab Supervisor shall contact the client to discuss options.

9.2.11 When selecting a method for use the following shall be considered in evaluating the method for the intended use and relevance to the client's needs:

9.2.11.1.1 The uncertainty of the results, detection limit, selectivity of the method, linearity, limit of repeatability and/or reproducibility, robustness against external influences and/or cross-sensitivity against interference from the matrix of the sample/test object.

9.2.12 In those cases where a well-recognized test method specifies limits to the values of the major sources of uncertainty of measurement and specifies the form of presentation of calculated results, the laboratory is considered to have satisfied this clause by following the test method and reporting instructions.

9.3 Introducing New Methods/Lab Developed Methods for Laboratory Use

9.3.1 Introduction of new methods, new instrumentation, or laboratory-developed methods shall be carefully planned. The process shall include input from the Lab Director, Lab Supervisors, Safety Officer, and the QAO. This input shall include information related to marketing, environmental controls (temperature, humidity, power, segregation, etc...), instrumentation, personnel and training, calculations, quality requirements, LIMS functions, reagents and chemicals, demonstrations of capability, safety issues, preventive maintenance, log book and worksheet development, validation, and any other relevant issues.

9.3.2 New method development, new instrumentation operation, and deviations from the reference method shall be the responsibility of the Lab Director and Lab Supervisors or their designees. Standard Operating Procedures shall be developed at the earliest opportunity. Operator's manuals and reference methods may be used until the SOPs are completed and issued for use.

9.3.3 All new methods development and new instrumentation shall only be assigned to qualified personnel. In the event that standard methods are used outside their intended scope, or the method or SOP is the laboratory shall document the deviation and shall make an effort to confirm that the methods are fit for the intended use. In the absence of time to adequately validate the modification of the procedure appropriate quality control indicators shall accompany the data.

Controlled Document

9.3.4 Management shall be responsible for providing adequate resources both monetary and support during implementation.

9.3.5 Implementation plans shall be updated as development progresses. The Lab Director shall approve all updates.

9.3.6 All new methods shall be appropriately validated prior to being issued for use unless waived in writing by the client. The validation shall be as extensive as is necessary to meet the needs of the given application or field of application. The minimum validation shall meet the initial test method evaluation requirements in NELAC Standards Appendix C.3 of Chapter 5.

Controlled Document

9.4 Producing the Desired Data Deliverable

9.4.1 From the information gathered from the client, research shall be done to translate the client's data needs into specifications to produce the desired data deliverable.

9.4.2 The work plan, schedules, and QAPPs shall be submitted to the client for approval, along with cost estimates for analytical services provided by the Laboratory.

9.5 Quality System and Technical Activities Coordination

9.5.1 Communication shall be established between the person assigned by Management to direct the project or analytical services and the technical staff. The Project Director shall communicate to the technical staff the details of the plan or process. The steps of implementing the plan of analytical services shall be discussed in staff meetings. Written instructions shall be used exclusively as hardcopy for project instructions. The Project Director is responsible for communicating to the technical staff such that all personnel understand their roles and responsibilities in the analytical process. Communication shall continue for the duration of the project or as needed.

9.5.2 Documentation for validation of implementation of sampling and analytical efforts shall be extensive. All aspects of the project or analytical process shall be documented. Implementation of the work process shall rely on documentation included in QAPPs, work plans, schedules, routine laboratory sampling logs, instrument logs, and calibration data. Further documentation shall be provided in SOPs.

9.5.3 Information deemed relevant to specific projects that would ensure an accurate and complete paper trail of the project or analytical service shall be documented. All organizational and project documentation supporting the project shall be distributed as established in the Project Plan or the SOPs.

9.5.4 Hazards associated with the analytical process shall be addressed. A qualified Safety Instructor shall do specific Safety Training. Medical concerns shall be addressed. Compliance with all known health and safety requirements is mandatory. Laboratory activities fall under the Chemical Hygiene Plan for the Laboratory.

Controlled Document

9.6 Work Sequence

9.6.1 All work is carried out in proper sequence and accordance with approved planning documentation that includes SOPs, QAPPs, Quality Assurance Manual, and other written authorized documentation.

9.6.2 Deviations from any initial work plan must be in writing and approved and authorized by the Project Director and the QAO.

9.7 Defining the Level of Quality Control

9.7.1 Quality control levels for specific projects shall be determined by applying the principles from EPA QA/G-4, *Guidance for the Data Quality Objectives Process.*

9.7.2 For analytical work, the quality controls mandated in the analytical methods shall be met or exceeded (Refer to QAM).

9.8 Contract Policy

9.8.1 Contracts for analytical services may be verbal or written, where appropriate. All written contracts or agreements shall include the client's specifications, procedures, and data requirements and the purpose of the analytical services requested, where applicable.

9.8.2 All contracts entered into shall have been reviewed by the Lab Director or designees to ensure that the client's data requirements, levels of detection, reference method requirements, time requirements, reporting requirements are adequately defined, documented, and understood.

9.8.3 The Lab Director or designees shall not accept/commence work until a readiness review has been conducted to determine if the laboratory has the capability to perform the requested work.

Controlled Document

10.0 IMPLEMENTATION OF WORK PROCESSES

10.1 Implementation of Work Plans and QAPPs

10.1.1 Responsibility of implementation of any project or work plan, including routine analytical testing and sampling, fall upon the Project Director, the Lab Director, the Lab Supervisors, and the QAO. Their responsibilities include the following:

1) Organization of projects and analytical work.
2) Planning the activities designed to meet the quality and sensitivity requirements.
3) Coordinating work performance evaluations.
4) Training and qualifying personnel to achieve and maintain proficiency.
5) Ensuring that the work is performed in accordance with the plan, method, or SOP.
6) Verify that all equipment (including back-up instrumentation), trained personnel, and reference materials necessary to complete the work or project is on-site, in working order, and available as needed for the project or work.

10.1.2 Management oversight for specific projects, as well as routine laboratory workings, shall be commensurate with the project or analytical testing required and shall be based on the intended use of the data product.

10.2 Work Implementation Process

10.2.1 Work for any specific project shall be done according to written instructions; i.e., QAPP, SOPs, and Job Work Orders, decided upon by a Project Director, supporting technical staff, and QAO. SOPs shall be written and maintained describing the tasks, methods, and procedures to be implemented.

10.2.2 The Project Director and staff shall write schedules.

10.2.3 The client or Micro-Methods' Field Technicians under the direction of the Project Director shall do sampling. Sample collection shall be done and documented as stated in written instructions of SOPs. Deviations from the initial work plans or SOPs must be in writing approved and authorized for use by the Project Director and the QAO. Sample tracking, measurement trace ability, and any pertinent information

Controlled Document

shall be documented and retained. Qualified technicians with adequate supervision, using written, authorized SOPs or work instructions, shall analyze samples.

10.2.4 Quality control indicators shall be used as a check of performance. Analytical raw data shall be reduced to a reportable format by the technician, reviewed by a peer or supervisor, reviewed by the Office Manager, reviewed by the QAO and finally the Lab Director before release only to the client.

10.2.5 Inspection, the use of analytical QC samples, and other means relevant and commensurate with the nature and importance of the activity shall monitor work performance to ensure satisfactory performance.

10.2.6 Work performance shall be considered to be satisfactory based on the following:

1) Completeness
2) Comparability
3) In control analytical measurement systems
4) Statistically valid measurements

10.3 Controlling Planned Procedures

10.3.1 Controlling the release, change and use of planned procedures is the responsibility of Management or their designees, such as the Project Manager or QAO. All planned procedures shall be reviewed and authorized by a Management Representative, by the Project Director, and by the QAO prior to release for general use. All planning documents and schedules are controlled to protect the confidential and proprietary rights of the client.

10.3.2 Project Directors or the Lab Director shall have oversight of the specific project or the analytical testing and shall closely monitor the data and operations as work progresses following schedules and goals. When changes to the plan are required, a Technical Document Change Notice Form must be initiated. This document can be initiated by a competent employee involved in the project, but must be approved by the Project Director, Lab Director, or QAO. Direct contact with the client may be necessary for approval, if the change affects the data quality objectives. For routine work instructions and SOPs, review shall take place whenever necessary because of revisions to methods, instrument replacement or upgrade, procedure or policy change, or any change in the activity. At minimum all procedures, plans, or manuals shall be reviewed annually by the Lab Director and designees and QAI. Changes to documents shall require that a Technical Document Change Notice be released with

Controlled Document

the changed document to be distributed to the proper personnel or those affected by the change.

10.3.3 It is the responsibility of QAO or designee to remove obsolete documentation from general use. Masters of obsolete documents shall be retained by QAO in a permanent controlled file for such documents.

10.4 Development of Operating Procedures

10.4.1 Standard Operating Procedures shall be written and followed for all routine, standardized or special/critical operations that affect the analytical data process or when clarification of a process or activity is required.

10.4.2 The format of the SOPs shall follow the guides established in EPA QA/G-6, *Guidance For The Preparation of Standard Operating Procedures (SOPs) For Quality Related Documents,* for Technical and Administrative SOPs where applicable or shall follow the NELAC proposed format for SOPs In all SOPs the requirements of NELAC shall take precedent over the format of the cited document.

10.4.3 Technical SOPs shall be written by Lab Supervisors and shall be reviewed and authorized for general use by the Lab Director, and the QAO,

10.4.4 Administrative SOPs shall be written by the Office Manager, Lab Director, or a Management Representative, then reviewed and authorized for general use by the Lab Director and QAO.

10.4.5 SOPs shall be reviewed at least annually, more frequently if changes are required, by the Lab Director, a Management Representative, and QAO. Lab Supervisors shall review technical SOPs and the Office Manager or Management Representative shall review administrative SOPs. Each SOP shall have a review and approval for use statement attached that indicates the date of the review, the approved signatories, and the issue date. This statement shall become permanent record along with the SOP. Changes to the SOP shall be documented in the Technical Document Change Notice form.

10.4.6 Changes shall include notification to those affected by the change.

Controlled Document

11.0 ASSESSMENTAND RESPONSE

11.1 Assessments

Assessments are evaluations intended to increase the user's understanding of the program or system being assessed, and to provide a basis for improving programs or systems.

11.1.1 Evaluations of the Quality System and its product shall be accomplished using assessment tools for environmental programs as discussed in this section.

11.1.2 Assessments shall include an evaluation of whether technical and procedural compliance is effectively met.

11.1.3 Assessments shall be performed according to written procedures by assessors chosen by Management with documented competence for the type of assessment performed.

11.1.4 Management is responsible for defining acceptance criteria, approving audit checklists, and identifying goals prior to the assessment.

11.1.5 Assessors shall be technically knowledgeable with no conflict of interest. Assessors from within the organization must have no involvement or responsibility for the work being assessed.

11.1.6 Assessors shall have complete authority to conduct the assessment activities and is authorized by Management to suspend or cease work in progress upon detection and identification of an immediate adverse condition affecting the quality of results or the safety of personnel.

11.1.7 Assessors, accrediting bodies, or regulatory agencies are authorized by Management to access programs and managers, access to documents and records, and the organization freedom to:

1) Identify quality problems
2) Identify and cite practices that may be shared with others to improve the quality of operations
3) Propose recommendations for resolving quality problems

Controlled Document

4) Independently confirm ineffectiveness of solutions provide documented assurance to line management that, when problems are identified, further work is monitored until the problems are resolved.

11.1.8 Management shall determine the type of assessment required for an activity from the following general types:

1) **Management self-assessment (Management Review)**: the qualitative assessment of a particular program operation by those immediately responsible for overseeing and/or performing the work. This assessment addresses whether the prevailing policies and practices are adequate for ensuring that the type and quality of results needed are actually obtained. Management self-assessments are performed at least annually, usually in January or during or immediately following the discovery of any policy or work practice that needs change or re-evaluation. All Laboratory operations shall be assessed annually at a minimum.

2) **Management independent assessment**: the qualitative assessment of a particular program and/ or organization by someone other than the group performing the work. This assessment addresses whether the prevailing policies and practices are adequate for ensuring that the type and quality of results are actually obtained.

3) **Technical self-assessment (Technical Audit)**: the evaluation process used by those immediately responsible for overseeing and/or performing the work to measure performance or effectiveness of a technical system and its elements with respect to documented specifications and objectives. Such assessments shall include qualitative and quantitative evaluations. It is the responsibility of the Lab Supervisors to schedule all technical audits.

4) **Technical independent assessment**: the evaluation process used by someone other than the group performing the work to measure the performance or effectiveness of a technical system and its elements with respect to documented specifications and objectives. Such assessments shall include peer reviews and audits.

Controlled Document

11.2 Management Systems Reviews (MSRs)

11.2.1 Management assessments shall be conducted annually by the Management Committee, comprised of the Senior Management Staff (President and Vice-President or CEOs), the QAO, the Lab Director, the Lab Supervisors, and selected staff. Senior Management shall document the adequacy of the framework and infrastructure of the Quality System and ensure its effective implementation.

11.2.2 Management Assessments shall assess the effectiveness of the quality system using audit checklists based on the requirements established from ISO/IEC Guide 25-1990, *General Requirements for the Competence of Calibration and Testing Laboratories,* or following the most current NELAC checklists.

11.2.3 Changes to the Quality System must be documented and implemented in an expedient manner.

11.2.4 The Management Committee shall at a minimum, annually review the Quality System to evaluate its effectiveness. Changes to the system shall be identified and initiated to meet current and future quality needs. Information gathered from internal and external audits, input and feedback from the Technical Staff, Clients, and changes in technology shall be the basis for system change decisions. Topics for the annual Management meetings shall include the following and documented on the Management Review Topics form DCN 098:

1) Suitability of policies (Quality System, Data Quality Objectives)
2) Effectiveness (Quality System, DQ Objectives)
3) Future changes to improve quality of service
4) Management/Supervisory reports
5) Recent Audit findings
6) External Audit findings
7) Results of Internal comparisons or Proficiency Testing
8) Changes in volume and type of work
9) Client feedback
10) Corrective Action
11) Other relevant factors

11.3 Surveillance

11.3.1 Surveillance is the act of monitoring or observing a process or activity to verify conformance to specified requirements. The Lab Director, Lab Supervisors, and

Controlled Document

QAO shall monitor the processes, technicians, raw data, and other Laboratory and Field activities to ensure that procedures are followed. Documentation shall be done to describe these activities

11.4 Laboratory Audits

11.4.1 Audits shall be performed in all areas of operation that affect the quality and output of data.

11.4.2 Audits shall be from internal and external sources.

11.4.3 Assessments shall be planned, and conducted annually and more frequently for specific areas that may need attention. A verification of the assessments will be reported by the supervisors to the Lab Director and QAO on the annual managerial review.

11.4.4 It is the responsibility of Management and designees to plan, schedule, and implement assessment procedures. The QAO is responsible for auditing the Quality System including the QAM and quality related SOPs at a minimum of annually. It is the responsibility of the Lab Supervisors to audit the technical procedures and processes based on the most current SOPs or Reference Methods.

11.4.5 It is the responsibility of the Lab Director and Supervisors for overseeing and scheduling assessments and for responding to the findings and decisions of the auditing team.

11.4.6 Scheduling of audits and allocation of resources for assessment activities shall be based on the status, risk, and complexity of the sampling and analytical testing. It is the responsibility of the QAO, the Lab Director, and the Lab Supervisors to determine that each element of the analytical process is functioning appropriately and within the guidelines of the proper methodology, the approved procedures. Deficiencies are documented and addressed to correct, improve and modify the system. Audits are conducted in response to unacceptable or questionable sample data and are a review and evaluation of the various components of the measurement and sample collection procedures to determine their proper selection and use.

11.4.7 Micro-Methods submit to on-site audits from federal, state and other regulatory or certifying agency. Clients who wish to audit the facilities may do so with prior notification and scheduling.

Controlled Document

11.4.8 Micro Methods Laboratory is in the National Environmental Laboratory Accreditation Program (NELAP). The accrediting body is LELAP (Louisiana Environmental Laboratory Accreditation Program and LDEQ #01960). Micro Methods Laboratory is required to submit to an on site audit by a representative from the accrediting body every two years at a minimum to maintain accreditation status. In addition to the on site audit, the representative performs an off-site evaluation of the laboratory quality documentation including selected SOPs and the Quality Assurance Manual. The laboratory must respond to all deficiencies uncovered during the audit within 30 days of notification with a plan to correct the deficiencies. All corrective action must be completed within six months following approval of the plan by LELAP. All items in NELAC Chapter 5 are available for the NELAP/LELAP auditor's off-site review, on-site inspection, and/or data audit.

11.4.9 The most recent NELAP/LELAP Accreditation certificate is posted in the foyer hallway. It is the responsibility of the QAO to ensure that the most recent and valid certificate is posted.

11.4.10 All statements concerning NELAP/LELAP accreditation of testing and accreditation status shall be accurate, clear, and precise so as to not mislead or imply endorsement by the accrediting body.

11.4.11 Micro Methods Laboratory shall use at least the phrase "NELAP accredited" and the laboratory's accreditation number or other identifier when the accrediting authority's name is used on general literature such as catalogs, advertising, business solicitations, proposals, quotations, laboratory analytical reports or other materials.

11.5 Performance Evaluations

11.5.1 Participation in relevant performance evaluations is required for many programs for which the laboratory performs testing. The Laboratory participates in the following Performance Evaluation Programs:

1) APG Performance Evaluation Testing Water Pollution (semi-annually)
2) APG Performance Evaluation Testing Water Study (annually)
3) AIHA Proficiency Analytical Testing (semi-annually)
4) APG DMR-QA (annually)

11.5.2 The QAO and the Lab Director shall evaluate technical staff internally using QC samples. The results of these indicators shall be compared to control limits established in the analytical methods or generated by Laboratory data.

Controlled Document

11.6 Data Quality Audits

11.6.1 Data Quality Audits shall be conducted by all Supervisory Personnel or designees and by QAO.

11.6.2 Data Quality shall be ensured by management overview and audits throughout the process of data collection, data entry, data reduction, data entry, reporting, and evaluation.

11.6.3 Data shall be monitored for errors, discrepancies, and statistical validity with documentation.

11.6.4 Reports requiring Level III or Level IV requirements are reviewed according to *SOP Data Quality Audits Level III / Level IV* DCN: 3029.

11.6.5 It is the responsibility of the QAO or designees to randomly select final reports for data quality audits. Approximately 5% of all final reports generated are audited.

The following data quality checklist is used for routine data quality audits:

Controlled Document

Audit #_____ Date_____
Lab File_____ Client_____
Audited By_____

Reason for the Audit:
____Routine Data Audit ____Problems with QC ____Client or Third Party discovery (explain below)

_____
_____
_____

PROBLEMS ASSOCIATED WITH QC CHECK

Blanks____ Surrogate Recovery____ LCS/LCSD____ MS/MSD____ Initial Calibration____
Continuing Calibration____ Duplicate Analysis____

Explain Problems with
QC_____
_____
_____

Corrective
Action_____
_____
_____

Data Qualification required ____Yes ____No

Errors Detected:

____Transcription ____Calculation ____Spelling ____Other (explain below)
_____
_____
_____

Corrective
Action_____
_____
_____
_____

Audit Findings
Summary_____
_____
_____
_____
_____
_____

Controlled Document

11.7 Peer Reviews and Technical Reviews

11.7.1 Multiple QA and QC checks are performed at all phases of field and laboratory work to prevent and/or detect data quality problems.

11.7.2 Data (both raw and final) is to be evaluated by no less than two competent individuals. 100 percent of all raw data is checked by the individual performing the analysis or by a peer. The data is then annotated and directed to the appropriate Lab Supervisor or the Lab Director, whose responsibility is to check calculations, compare raw data to results, check for transcription errors, and determine compliance with method requirements and project specifications. Manual calculations are performed to confirm the analyst's calculations and to also confirm any electronic data system calculations. Any errors detected shall be investigated, corrected and documented.

11.7.3 The data is then forwarded to the Office Manager or designees, who assemble and print the report. The Office Manager or designee shall check for entry errors, and then forward the report to the QAO. The QAO or designees shall review and validate the data produced by the laboratory to ensure its validity, reliability, and defensibility. Checklists shall be used to review and document pertinent aspects of the data.

11.7.4 Review by QAO shall consist of comparing quality control Indicators to project or method control limits, for precision, accuracy, and completeness as it relates to data quality.

11.7.5 Reports summarizing errors detected during the quality review are routed to the Lab Supervisor for corrective action. Following acceptable corrective action, the data is again submitted to theQAO for completion of the quality review. QAO shall accept the changes, if satisfactory, annotate the data, and then forward the data to the Lab Director for final review.

11.7.6 The Lab Director verifies that the data product is consistent with project and analytical requirements and shall verify data sensibility. When the data is deemed acceptable for the client's requirements, the Lab Director shall authorize the release of the report to only the client.

11.7.7 Narratives are written noting any problems or anomalies encountered in the analytical process. Data is flagged where required.

Controlled Document

11.7.8 Peer review by a competent analyst is encouraged as an essential component of the system because problems are often identified quickly and corrective action implemented. Peer reviews shall be performed by fellow analysts (exchange of work between the analysts for checking purposes). Peer review leads to the development of a better data product.

11.7.9 Technical reviews shall be accomplished by one or more qualified reviewers (ex. Lab Supervisors or the Lab Director, independent of those who performed the work, but are equivalent in technical expertise to those who performed the original work. These reviews are an in-depth analysis and evaluation of documents, activities, material, data or items that require technical verification or validation for applicability, correctness, adequacy, completeness, and assurance that project and analytical requirements are satisfied. Documentation shall be accomplished through checklists and narratives.

11.8 Readiness Reviews

11.8.1 Readiness reviews are systematic, documented evaluations of the readiness for the startup or continued use of a facility, equipment, process, or activity (capability review). Readiness reviews shall be conducted prior to commencement of new projects, new methods, or new procedures. Readiness reviews shall follow narrative or checklist documentation. Readiness reviews for technical activities are the responsibility of the Lab Supervisors. Readiness reviews for Quality related activities are the responsibility of the QAO. Readiness reviews for Administrative activities are the responsibility of Management.

11.8.2 Readiness review leading to a contract for services (verbal or written) shall include evaluation of the laboratory operations to determine that the laboratory has the resources and capability to meet the requirements of the client. The review shall also determine that the appropriate environmental test method is selected and capable of meeting the clients' requirements and intended use. The review shall also include options for subcontracting work in the event that an analysis is requested that Micro Methods Laboratory cannot perform.

11.8.3 The Laboratory Director or Lab Supervisors shall discuss options for any work subcontracted with the client prior to accepting work.

11.8.4 The QAO shall discuss any accreditation or certification status questions with the client prior to accepting work, where accreditation is a requirement.

11.8.5 The Laboratory Director shall inform the client of the results of the review of capability if it indicates any potential conflict, deficiency, lack of appropriate accreditation status, or inability on the laboratory's part to complete the client's work prior to accepting any work.

Controlled Document

11.8.6 The Lab Director shall make every effort to resolve all differences prior to contracting with the client, such that the contract or request for services is agreeable to both parties (the client and the laboratory).

11.8.7 All records, documentation, checklists, memos, pertinent discussion topics, etc...Related to the contractual agreement shall be maintained with the contract as permanent record.

11.8.8 In the event that a deviation from the contract occurs or is detected, the Laboratory Director or Lab Supervisors shall promptly notify the client.

11.8.9 If a contract requires amendment after initiation of the work, the same contract review process shall be repeated and any amendments communicated to all affected personnel.

11.8.10 The Laboratory Director shall notify the client by phone, followed by hard copy of any suspension of accreditation, revocation of accreditation, or voluntary withdrawal of accreditation that may have an impact on any on-going projects or future projects.

11.9 Complaint Resolution

11.9.1 Complaint Resolution Responsibility

1) The Lab Director has the primary responsibility of initiating complaint resolution procedures or delegating authority to others to complete the tasks to the satisfaction of the client. All complaints must be promptly investigated or audited.

2) Delegation of authority for complaint resolution is at the Lab Director's discretion. In the event that the Lab Director is unable to handle the complaint, in financial complaints or business complaints the Office Manager shall assume complaint resolution authority. In complaints regarding data quality, the QAO shall assume complaint resolution authority. In matters related to results or technical operations, the lab supervisors shall assume complaint resolution authority.

11.9.2 Handling Minor Complaints

1) It is the responsibility of the Office Manager, the Lab Director, the Lab Supervisors, or the QAO to determine if the complaint is serious or minor.

2) Minor Complaints do not need to be logged into the Serious Complaint Log but they must be treated and acted upon immediately.

Controlled Document

3) Documentation of the changes shall be recorded according to SOP Error Corrections DCN 134.

11.9.3 Handling Serious Complaints

1) When a complaint is received from someone other than the Lab Director that is considered to be serious, the individual shall issue a Complaint Resolution Form, and immediately give it to the Lab Director. If the Lab Director receives the complaint call, he shall initiate the form. The Complaint # on the form shall be in the form XXXXXX-Y, where the first 6 Xs are the month, day, and year of complaint initiation. The Y is an ascending number beginning with "1" followed by consecutive numbers for each complaint registered on that day.

2) The Lab Director shall assign someone to resolve the complaint as soon as possible. The assignee shall complete the CRF and return it to the Lab Director for follow-up.

3) After follow-up, and the complaint is considered closed the CRF shall be given to the QAO for filing and maintenance.

4) The QAO is currently setting up a statistical program to monitor complaint data, so it is necessary to complete all information on the form.

11.9.4 Initiating Complaint Resolution

1) Client complaints are usually first handled by the Laboratory Director or his designee. Information is gathered from the complaint concerning Sample Date and Time received, Sample ID#, Report Lab File # and reason for the complaint. This information is then used to locate filed reports, raw data in bench log books and the technician who performed the analysis. If results are questioned this information can be used to check data calculations or located stored samples for re-checks.
The first step is to examine the raw data and the worksheets, looking for obvious mistakes (transposing numbers, poor peak integration, calibration problems, etc.) Do not assume that a mistake could not have occurred because the computer performed the calculation. If no calculation error or obvious analyst error if found, examine the pertinent quality control data. Was the system in control, as revealed by control charts or quality control indicators? Had there been any maintenance activities performed on the instrument prior to or following the analysis? Had the instrument been properly calibrated prior to the analysis? Had any quality assurance irregularities been reported at the time the analysis was performed?

Controlled Document

2) Thoroughly research the complaint in search of a legitimate cause for the erroneous result. After all the information is gathered the Lab Director or designee shall discuss a plan for resolving the complaint. If a reason for the non-conformance can be determined immediately notify the client of the details, and rerun the sample at no charge to the client, if holding time allows. All documentation shall be recorded in bound notebooks, Complaint Resolution Forms, or on the nonconformance forms, corrective action forms, and recorded in the corrective action master log.

3) Send a letter to the client if needed stating the problem, how it was corrected, and what shall be done in the future to avoid recurrence of the same problem. Thank them for their patience while the problem is being resolved and of course apologize.

4) In some instances the client may need to be educated to the fact that no measurement is completely error free and may need introduction to the concept of the confidence range. It may be that the confidence range of the disputed result includes the value the client thought he / she should have gotten.

5) If no error has been found and the examiner is confident of the validity of the result, and the expected result is outside the 95 percent confident range of the actual result, an offer can be made to rerun the sample with the following proviso. If the second result is within the 95 percent range of the first, the client shall pay for the second analysis. If not, the laboratory shall absorb the cost.

11.9.5 Resolving the Complaint

1) The plan to resolve the complaint shall be carried out to the client's satisfaction, the client shall be notified and a summary of the client's final comments recorded on the Complaint Resolution Form.

2) The completed form shall be given to the Lab Director. The Lab Director shall review the CFR and determine if the complaint is resolved based on the following guides:
   A) All of the facts and information has been compiled relating to the complaint. This shall include information from the client, from the raw data and completed report files, from the Lab Director and the individual most directly involved.
   B) A plan has been formulated to resolve the complaint, and action has been taken to correct the problems relating to the complaint.
   C) The client has been informed of the conclusions reached and steps in the resolution, and the client's response recorded. (Always focus on the client's data requirements)

Controlled Document

D) All forms documenting the resolution steps have been completed and signed by the Lab Director. The forms shall be filed and logged into the computer by the QAO or designee/s.

11.9.6 File Copies

1) The Lab Director shall maintain three ring binder containing un-resolved and resolved complaints.

2) Un-resolved or on-going complaints shall be moved to the resolved section as they are completed.

3) Un-resolved complaints shall receive priority treatment until they are resolved.

4) Un-resolved complaints that have long-term resolutions shall be discussed at staff meetings.

Controlled Document

Complaint Resolution Form

Logged By: _____ **Date:** _____

Client: _____ **Lab File Number**_____

Client Contact: _____ **Complaint #**_____

Complaint related to:

Results_____ **Holding Times**_____ **Delayed Report**_____ **Calculation Error**_____
Rejected Data_____ **QC Data**_____ **Method of Analysis**_____ **Mistakes in Report**_____

Complaint_____

Complaint Assigned to:_____ **Date**_____

Complaint Resolution Plan/Corrective Action_____

Client's Final Comments:_____

Attach any relevant documentation or correspondence

This complaint has been researched, documented and has been resolved according to SOP *Complaint Resolution DCN 3001*

Controlled Document

_____/_____

Lab Director Date

11.10 Data Quality Assessments

11.10.1 Environmental data shall be qualified according to the intended use of the data. Data must meet the qualifications set forth in this Manual, the analytical procedures, and those required by the data user.

11.10.2 When project specific data assessment is required, the EPA document *Guidance for Data Quality Assessment*, EPA QA/G-9 shall be followed.

11.11 Response to Assessment Findings

11.11.1 Management shall respond positively to the findings and recommendations from assessments in a timely manner. If a time for response is agreed upon, the laboratory shall make every effort to respond within this time.

11.11.2 The appropriate response shall be made promptly to conditions needing corrective action.

11.11.3 The Supervisors or designees shall implement and document the corrective action and subsequent follow-up action to confirm the effectiveness of the response action.

11.11.4 All audit and review findings and any corrective actions that arise from them shall be documented. The Management Committee shall review and discuss the findings at weekly or monthly meetings and shall ensure that these actions are discharged in a timely manner.

11.11.5 After corrective actions have been implemented and prior to the next audit of the area or laboratory operation, the auditor shall review the previous audit and verify that the corrective actions are in place and functioning properly and the issue resolved.

Controlled Document

12.0 QUALITY IMPROVEMENT

12.1 Responsibility

12.1.1 Management is ultimately responsible for identifying, planning, implementing and evaluation of the effectiveness of quality improvement activities. This is accomplished through the Management Committee guidance of the laboratory staff in quality improvement activities associated with monitoring plan development, data collection and storage, statistical analyses, quality control criteria, data interpretation, and report generation.

12.1.2 Staff at all levels are encouraged to identify customers' and suppliers' needs and requirements, identify process improvement opportunities, identify problems, and offer solutions to those problems.

12.1.3 Staff shall be educated and made aware of, through periodic motivational lectures by Management on the effects of poor job performance on other employees, customer satisfaction, and costs. The advantages of proper job performance at all levels shall be discussed. Management shall offer incentives to encourage staff and managers to exceed the expectations of the client whenever possible as a quality improvement goal. Staff shall be educated such that they have a clear understanding of the tasks that they are expected to perform and how those tasks support the overall mission of the laboratory.

12.2 Problem Prevention and Minimization

12.2.1 Precautions shall be taken to minimize and prevent problems from occurring. Planning, sampling, analysis, project management, and data handling procedures shall be continually monitored as required and applicable to ensure minimal errors and problems.

12.2.2 Quality Control Indicators shall be used as an aid to detection of problems in data quality and system performance.

12.2.3 Problems shall be assigned to the most qualified personnel for the problem area, who shall investigate, research, document, and then formulate a plan of corrective action to be reviewed and approved by a representative of the Management Committee.

Controlled Document

12.2.4 The Management Committee shall at least annually review existing overall laboratory performance and identify opportunities for quality improvement.

12.2.5 Technical Systems performance shall be monitored more frequently, as required for optimum performance. (Daily QC checks, Instrument Performance checks, etc.).

12.2.6 Following all audits, internal or external, and all performance evaluations, internal or external, technical and personnel performance shall be reviewed.

12.2.7 Problem prevention shall be a primary concern and shall be a pro-active process to identify opportunities for improvement rather than a reaction to the identification of problems or complaints.

12.3 Problem Prevention Tools

12.3.1 SOPs shall be used exclusively for analytical operations and activities. They shall be used as training guides for certifications. All authorized SOPs shall be available for use. SOPs shall be followed as guides that shall be the foundation of the data product. SOPs shall be controlled and revised when necessary to improve data quality.

12.3.2 Personnel training shall be extensive, comprehensive, and continuous in nature.

12.3.3 Quality control samples shall be entered as routine control indicators. In addition, blind samples shall be introduced into the analytical system to monitor performance of the system and personnel. Quality control indicators (surrogates, blank samples, matrix duplicates, matrix spikes, and matrix spike duplicates) shall be used to monitor operations and procedures. Periodic inspections of instrumentation and equipment shall be as required.

12.3.4 Documentation of the implementation process shall be to the extent possible to provide defensible, accurate data, as well as established a paper trail for future reference.

12.3.5 Documentation of the qualifications and activities of all technical personnel activities (sampling and analytical) shall also support and describe the work for future reference.

12.3.6 Specific planning, sampling, analytical, and program management activities that do not meet established requirements (i.e., deficiencies, non-conformances) shall be identified, controlled, documented, reported, and corrected. Plans shall be developed,

Controlled Document

implemented and monitored in such a way to reduce the likelihood of the occurrence of such non-conformances and to take advantage of the opportunities for improvement.

13.0 SAMPLING PROCEDURES

13.1 General Sampling Procedures

13.1.1 The objective of sampling is to collect a portion of material small enough in volume to be transported conveniently and handled in the laboratory while still accurately representing the material being sampled. This objective implies that the relative proportions or concentrations of all pertinent components shall be the same in the samples as in the material being sampled, and that the sample shall be handled in such a way that no significant changes in composition occur before the tests begin. In many instances the objective of sampling is to demonstrate compliance with specific regulatory requirements. Samples are presented to the laboratory for specific determinations with the sample collector taking responsibility for the validity of the sample. Because of the increasing importance of the ability to verify the accuracy and representativeness of data, greater emphasis is placed on proper sample collection and preservation techniques.

13.1.2 Micro-Methods often conducts or prescribes the sampling procedures or protocols based on the Methods employed or as a result of the data users' needs, but always in consultation with the user of the test results. Written sampling plans can be designed to meet clients' requirements. Such consultation is essential to insure selection of a sampling plan and analytical methods that provide a true basis for answering the questions that prompted the sampling. A carefully designed and documented sampling plan is necessary to provide reliable samples. The plan shall address the type and number of samples, the details of collection and the procedures followed. For the purpose of planning, samples have been divided into the following four sample types:

1) ***Representative*** - A sample is considered to be typical of the universe of concern and whose composition can be used to characterize the universe with respect to the parameter measured.

2) ***Systematic*** - A sample taken according to a systematic plan, with the objective of investigating systematic variability of the universe of concern. Systematic effects due to time or temperature are typical matters of concern.

Controlled Document

3) ***Random*** - A sample selected by a random process to eliminate questions of bias in selection and/or to provide a basis for statistical interpretation of measurement data.

4) ***Composite*** - A sample composed of two or more increments that are combined to reduce the number of samples needed of average compositional variability.

13.1.3 Three kinds of sampling plans can be used in a measurement process based on the above types of samples.

1) ***Intuitive*** - Plans based on the judgment of the sampler

2) ***Statistical*** - Plans based on statistical sampling of the universe of concern providing the basis for probabilistic conclusions

3) ***Protocol*** - Plans based on stated sampling procedures; data to be used for decision-making purposes

13.1.4 Each type of plan has advantages and disadvantages. Micro-Methods shall develop sampling plans based on the client's needs and requirements recognizing that sampling is one of the most critical steps in chemical measurement. All aspects of sampling, sample preparation, and sub-sampling shall be done according to an approved plan or method. Properly recorded documentation shall support that these plans were followed. Management must approve any deviations in writing. Standard Operating Procedures cover routine sampling procedures using various sampling equipment. If no procedure exists to guide in a sampling project, a plan shall be designed and documented. The plan shall be written as a protocol, including any relevant Standard Operating Procedures needed to be followed. The plan shall address at a minimum, the following:

1) When, where, and how to collect samples (initial site evaluation required if possible)

2) Sampling equipment to be used, including its maintenance and calibration

3) Sample containers, including cleaning, addition of stabilizers, and storage

4) Criteria for acceptance and/or rejection of samples

Controlled Document

5) Criteria for exclusion of foreign objects

6) Sample treatment procedures such a drying, mixing, and handling prior to measurements

7) Sub-sampling procedures

8) Sample record keeping such as labeling, recording, and auxiliary information

9) Chain of custody requirements

13.1.5 More extensive plans can be developed depending on the client's needs.

13.2 General Sampling Precautions

13.2.1 The goal of the sampler is to obtain a sample that meets the requirements of the sampling program and handle it so that it does not deteriorate or become contaminated before it reaches the laboratory. Micro-Methods management shall coordinate sampling procedures with field technicians to assure that samples are collected as outlined by the sampling plan or in accordance with Method requirements (examples, SW-846, NIOSH) for sampling and preservation. All field personnel shall discuss directly with the Lab Supervisors or their designee when a question arises pertaining to a sampling procedure. Samples must be collected and handled such that they produce data representative of the area of concern. In order to do this, both field and laboratory personnel must perform their activities in accordance to approved methods and procedures. The following documentation is to be used as a general guide to eliminate many of the inconsistencies encountered in the sampling process.

13.2.2 All deviations, additions or exclusions from the documented sampling procedure shall be recorded in detail and these documents maintained along with the appropriate sampling data. The data shall have an associated qualifier with an explanation of the deviation in the narrative. It is the responsibility of the Lab Director or Lab Supervisors to notify all affected personnel including the client if necessary.

13.3 Sample Bottle Preparation

13.3.1 The sampling team (Project Manager and field technicians) must consider the analyses to be performed and are responsible for making certain that the proper sample containers and shipping containers are assembled. The

Controlled Document

preservatives are added to the sampling containers under laboratory conditions, unless instructed otherwise. Sample bottles are pre-cleaned according to EPA protocol by the bottle supplier (various sources I-Chem., Quorpak, QEC, Wheaton) with certification of cleanness. The certifications, lot numbers, and bottle preparation documentation are retained on file. Custody seals and Chain of Custody documents are provided to aid in sample integrity. Trip blanks, field blanks, blank spikes, extra bottles for field duplicates and laboratory Quality Control are provided when required or requested.

13.3.2 Sample containers and preservation techniques must be consistent with the EPA recommendations set forth in the Methods being employed.

13.4 Field Records

13.4.1 The sample collection team, keeping clearly legible notes of problems or unusual occurrences encountered, must complete all records relating to field collection. The collection team shall record in bound 8 ½ x 11-inch notebooks (pre-printed lab notebooks supplied by Scientific Bindery Productions) the following information, if available:

1) Location of sampling point

2) Name and address of field contact

3) Producer of waste and address if different from location

4) Type of process producing waste

5) Type of waste (e.g., sludge, wastewater)

6) Suspected waste composition

7) Number and volume of sample taken

8) Purpose of sampling

9) Description of sampling point and sampling methodology

10) Date and time of collection

Controlled Document

11) Collector's sample identification information

12) Sample distribution and how transported

13) References of the sampling site (maps, photographs)

14) Field observations

15) Any field measurements made

16) Signatures of personnel responsible for observations

13.4.2 It is recognized that sampling situations vary widely. No general rule can be given as to the extent of information that must be entered into the logbook. A good rule, however, is to record sufficient information so that anyone can reconstruct the sampling without reliance on the collector's memory. The logbooks shall be safely maintained and stored as permanent records. All field records must be recorded in indelible ink.

13.5 Field Sample Identification

13.5.1 The field personnel are responsible for correctly identifying and labeling each sample collected. Samples must be uniquely labeled, as they are collected with the following information, as a minimum:

1) Project Number (if available)

2) Sample identification information

3) Location of Sample Point

4) Sample Date and Time

5) Sampler/Samplers

6) Preservation or Stabilizers Added

Controlled Document

13.5.2 For most sample containers pre-printed labels are available on which the above information can be written.

13.6 General Field Sample Collection Guidelines

13.6.1 Samples must be collected using an approved sampling plan utilizing techniques consistent with the parameter to be measured. The following documentation gives general sampling techniques and procedures for routine sampling schemes. Sampling Plans and/or Standard Operating Procedures shall give more specific information if needed.

13.7 General Safety Precautions

13.7.1 Safety must always be the primary consideration in the collection of samples in the field. A thorough understanding of the waste production process, chemical spill area, or any area suspected of contamination and potential hazards associated with the area must be investigated prior to any initiation of any sampling. The field personnel in a bound laboratory notebook must record any information pertinent to safety. The site must be visually evaluated just prior to sampling to determine if any additional safety measures need to be taken. Minimum protection of gloves and safety glasses must be worn to prevent sample contact with the skin and eyes. A respirator must be worn even when working outdoors if organic vapors are known to be present. Protective clothing shall be worn when required. More hazardous sampling missions may require the use of supplied air and special clothing. Only technicians trained to sample in these situations shall be allowed to do these types of sampling plans.

13.8 Volatile Organics Sample Collection

13.8.1 Water

13.8.1 Standard 40ml glass screw cap VOA vials with Teflon-lined silicone septa may be used for liquid matrices according to SW-846, Chapter 4, and "Organic Analysis." Micro-Methods use 40 ml amber glass, pre-cleaned to EPA specifications for Superfund sample analysis with certificates of analysis, which are retained on file. The vials are prepared in the laboratory by added HCL to bring the pH of the sample to less than 2 or HCL can be added in the field to accomplish the pH requirement. The sample must be introduced into the vials gently to reduce agitation, which might drive off volatile compounds. In general, liquid samples must be poured into the vial without introducing any air bubbles within the vial as it is being filled.

Controlled Document

13.8.1.1 Should bubbling occur as a result of violent pouring, the sample must be poured out and the vial refilled. The vials must be completely filled at the time of sampling, so that when the septum cap is fitted and sealed, and the vial inverted, no headspace is visible. The sample vials must be hermetically sealed and must not be opened prior to analysis to preserve sample integrity. A signed and dated custody seal (sampler's responsibility) shall be placed on each vial collected. At least two VOA vials are filled per sampling point and labeled immediately at the point at which the sample is collected. The two vials from each sampling location sampling shall be then sealed in plastic bags, to prevent cross contamination, placed in coolers containing sufficient amounts of ice or ice packs to maintain sample temperature at 4 degrees C +/- 2 degrees C. Sample information must be recorded in a bound field notebook and Chain of Custody forms must be initiated and completed as each sample is collected.

13.8.1.2 If a sample is to be collected for volatile analysis which may contain residual chlorine use the following guidelines: Collect the sample in a 125-ml pre-cleaned container which has been pre-preserved with 4 drops of 10% sodium thiosulfate solution. Gently swirl to mix sample and transfer to 40 ml amber, pre-cleaned vials. Cool to 4 degrees C, and then adjust to pH less than 2 with HCL.

13.8.1.3 VOA vials must never be filled near a running motor or any type of exhaust system. Due to differing solubility and diffusion properties of gases in liquid matrices at different temperatures, it is possible for the sample to generate some headspace during storage. This headspace shall appear in the form of micro bubbles but shall not invalidate a sample for volatiles analysis unless the bubble size is greater than 5mm in diameter. However, the presence of a macro bubble in a sample vial generally indicates either improper sampling technique or a source of gas evolution within the sample. The latter case is usually accompanied by a buildup of pressure within the vial. Unpublished studies conducted by the USEPA indicate that pea-sized bubbles did not adversely affect volatiles data. Avoid storing highly contaminated samples in the same area that low-level samples are stored or shipped. If samples are suspected to be highly contaminated, activated carbon should be added to the plastic sample bags to control possible cross-contamination.

13.8.1.4 VOA samples may also be contaminated by diffusion of volatile organics the septum during shipment and storage. To monitor possible contamination, a trip blank prepared from organic free reagent water must be carried throughout the sampling, storage, and shipping process.

Controlled Document

13.9 Soil/Sludge/Sediment/Solid Waste

13.9.1 VOA vials for samples with solid or semi-solid matrices must be filled according to the guidance given in the appropriate method for sample introduction to be used. Standard Operating Procedures have been written which contain the appropriate collection techniques and amounts needed. Table 5.4.2C contains the EPA guidelines in use for collection of Soil, Sediment, Ash, or Sludge. Solid samples are collected using pre-cleaned (with level of cleanness certified) 125 ml or 4 oz. wide-mouth glass containers. Teflon-lined tops are required. The containers must be filled as completely as possible.

1) Eliminate as much free air space as possible by tapping the container slightly. No preservatives are added to solid or semi-solid samples. Samples must be placed in sealed plastic bags. Adherence to all contamination precautions required. Adherence to all documentation and labeling requirements as previously stated must be followed. Adherence to sample temperature requirements must be followed and documented.

13.10 Sample Collection for Semi-Volatiles, Pesticides/PCBs, and Herbicides)

13.10.1 Water

13.10.1.1 Samples shall be collected using pre-cleaned, (with certified level of cleanness suitable for trace analysis) one liter, and amber glass, Boston Rounds, with Teflon lined lids. Sample bottles shall be rinsed three times with the sample (if enough sample exists to do this), and then discarded and a fresh sample shall be collected. Sample bottles shall be filled to the neck, capped and a custody seal placed on the top. Adherence to all contamination precautions required. Adherence to all documentation and labeling requirements as previously stated. Adherence to sample temperature requirements to be followed and documented (cool to 4 degrees C).

13.10.1.2 If a water sample is known to contain residual chlorine, add 3-mls of 10% sodium thiosulfate per gallon. Cool to 4 degrees C.

13.11 Solid Samples

Controlled Document

13.11.1 Collect Solid/Sludge/Soils/Ash samples in certified, pre-cleaned 250 ml wide-mouth glass containers with Teflon lids. Cool to 4 degrees C.

13.11.2 All sample collection volumes, container type and size, preservative requirements, and holding time requirements as stated in Table 5.4.2C must be used for samples analyzed by SW-846 Methods for Organics. Documentation of sample bottle preparation shall be recorded in either bound lab notebooks or on pre-printed bench sheets. Standard Operating Procedures exist for general sampling techniques using proper equipment. Included are some statistical formulas for determining sampling schemes, Quality Control requirements, and other information necessary to properly perform tasks of field sampling (SOP *Sampling Procedures*).

13.12 General Wet Chemistry

13.12.1 Samples collected for general wet chemistry analyses shall follow the requirements set forth by Standard Methods for sample amounts, container type, and preservation. All documentation requirements shall be followed.

13.13 NIOSH Methods

13.13.1 Samples to be analyzed by NIOSH methods (air, filters, and bubblers) shall follow the appropriate requirements found in the method to be used.

13.14 Drinking Water Samples

13.14.1 Samples to be analyzed by Drinking Water Methods (500 series) shall follow the requirements stated in Table 5.2.5.2A for container sample amount, container type, preservation, and holding times.

13.15 Inorganic Analyses

13.15.1 Samples to be analyzed for inorganic constituents shall follow the appropriate guidelines found in the relevant tables, methods, or SOPs.

Controlled Document

13.16 Sample Transport

13.16.1 Prompt transfer of the sample to the laboratory is mandatory. Field personnel must notify the lab of the number of samples being shipped, number of coolers used, the method of transport (field personnel transport, UPS, Fed Ex or other means), the estimated time of arrival of the samples to the lab and any other pertinent information, documenting this information in the field notebook. Each cooler must be checked to verify that the sample containers are consistent with the chain of custody information. The samples must be properly packaged to prevent breakage. Adequate ice must be added to meet the temperature requirements. "Blue Ice" packs should be avoided because they do not cool as well as ice does. The Chain of Custody records, field records and analysis request forms must be sealed in plastic and taped to the inside of the cooler lid or be sent as an individual package. The cooler must be sealed with heavy strapping tape or duct tape. Custody seals, when required, shall be placed on the coolers.

14.0 SAMPLE CUSTODY

14.1 Custody

14.1.1 For the purposes of defensibility, it is necessary to have an accurate written record to trace the possession of samples from collection through disposal. The procedures defined in this section represent the means to satisfy this requirement.

14.1.2 A sample is in someone's "custody" if:

1) It is in one's actual physical possession

2) It is in one's view, after being in one's physical possession

3) It is in one's physical possession and then locked up so no one can tamper with it

4) It is kept in a secured area, restricted to authorized personnel only

Controlled Document

14.1.3 The sample collector is required to initiate the chain of custody form. All required information must be submitted. Chain of Custody forms must be started in the field, and sample information entered as the samples are collected (refer to SOP *Sample Custody and Documentation*).

14.1.4 After accepting custody of the sample or documentation the responsible person must be prepared to testify that the sample or documentation was in their possession and view or secured in the laboratory at all times from the moment it was received from the custodian until the time that the analyses are completed or the sample is disposed.

14.2 Transfer of Custody and Shipment

14.2.1 When transferring the possession of samples the transferee must sign and record the date and time of sample custody exchange on the chain of custody record. Custody transfer, if made to a sample custodian in the field, must account for each individual sample, although samples may be transferred as a group. Every person who takes custody must fill in the appropriate section of the chain of custody.

14.2.2 The field custodian (or field sampler if a custodian has not been assigned) is responsible for properly packaging and dispatching the samples to the laboratory for analysis. This responsibility includes filling out, dating and signing the appropriate portion of the chain of custody record.

14.2.3 The chain of custody record and other pertinent forms or documentation must accompany all packages sent to the laboratory. The field sample custodian shall keep copies of the chain of custody record.

14.2.4 Mailed packages can be registered with return receipt requested. If packages are sent by common carrier, shipping receipts must be retained as permanent documentation.

14.2.5 If samples are shipped by mail or by other common carrier, the shipper must comply with any applicable Department of Transportation regulations. Most water samples are exempt unless quantities of preservatives used are greater than certain levels. The package must be sealed or locked to prevent tampering. Any evidence of tampering should be readily detected if adequate sealing devices are used.

14.2.6 If the field sampler delivers samples to the laboratory, custody may be relinquished to the sample custodian or his designee only. Until sample log in the samples must

Controlled Document

be stored in the cooler (original transportation coolers) unopened, in the walk-in cooler in the rear of the laboratory. The person delivering the samples for the laboratory must make a logbook entry stating where and how the samples were delivered and secured and relinquish the samples to the lab sample custodian by signing the chain of custody in the appropriate box.

14.3 Laboratory Sample Control Procedures

14.3.1 Sample control procedures are necessary in laboratory from the time of sample receipt to the time the sample is discarded. The following procedures are implemented to maintain the integrity of the sample while in custody by the laboratory.

14.3.2 Management has established the position of sample custodian and an alternate custodian to assume the duties of the primary custodian in the custodian's absence. All incoming samples must be received by the custodian, who must indicate receipt by signing the accompanying custody/control forms and who is responsible for attaching the chain of custody to the lab bench sheets, which shall become permanent record. The custodian is responsible for logging into the LIMS all samples received, and generating sample labels and bench worksheets.

14.3.3 The custodian maintains a permanent logbook to record, for each sample, the person delivering the sample, the person receiving the sample, date and time received, source of sample, date the sample was taken, sample identification log number, how transmitted to the laboratory, and condition received (sealed, unsealed, broken container, preserved or not, iced or not, or any other pertinent remarks). This log shall also document movement within the lab; i.e., who removed the sample from the custody area, when it was removed, when it was returned, and when it was disposed. The LIMS has sample tracking and technicians are required to document the program.

14.3.4 The custodian maintains a permanent logbook to record, for each sample, the person delivering the sample, the person receiving the sample, date and time received, source of sample, date the sample was taken, sample identification log number, how transmitted to the laboratory, and condition received (sealed, unsealed, broken container, preserved or not, iced or not, or any other pertinent remarks). This log shall also document movement within the lab; i.e., who removed the sample from the custody area, when it was removed, when it was returned, and when it was disposed.

Controlled Document

The LIMS has sample tracking and technicians are required to document the program.

14.3.5 The sample custody area is locked at all times with the sample custodian and lab supervisors retaining keys to the area.

14.3.6 The custodian must ensure that heat and light sensitive samples or other sample materials having unusual characteristics, or requiring special handling, are properly stored and maintained prior to analyses.

14.3.7 The custodian, documenting the sample movement, shall make distribution of samples to the lab analysts or supervisors.

14.3.8 The laboratory work area is maintained as a secured area, restricted to authorized personnel only. The lab supervisors or management when entering the lab secured area must accompany visitors.

14.3.9 Laboratory personnel are responsible for the care and custody of the sample once it is received by them and must be prepared to testify that the sample was in their possession and view or secured in the lab at all times from the moment it was received from the custodian until the time that the analyses are completed.

14.3.10 When samples are distributed to lab sections preparation is documented either in lab preparation worksheets or in lab notebooks.

14.3.11 Once the sample analyses are completed, the unused portion of the sample must be returned to the custodian. The returned, labeled sample must be retained in the designated custody area until permission is given to dispose. If the sample is completely used during the analysis it must be documented in the LIMS sample-tracking program.

14.3.12 Samples shall be disposed of only upon the order of the lab supervisor or lab director, who must first ascertain that the samples have exceeded the maximum holding time established by the regulating agencies or by the lab. Sample disposal documentation is required. The sample custodian and/or designees shall discard samples.

14.3.13 At least quarterly the sample custodian shall review the sample log to determine if sample control information is up-to-date. The records shall be reviewed for trace

Controlled Document

ability, completeness, and accuracy. The custodian shall report any inconsistencies to the QAO.

14.4 Sample Acceptance/Rejection Policy

14.4.1 Samples received by the laboratory for compliance purposes must be rejected unless they meet the following criteria:

a) proper sample container
b) adequate sample amount
c) preservatives as set forth by the methods employed
d) maximum holding times not exceeded

14.4.2 Sample collection and transport requirements strict adherence to correct sampling procedures, complete identification of the sample, and prompt transfer of the sample to the laboratory. When the lab is not responsible for sample collection or transport, it must verify that the paperwork, preservatives, containers, and holding times are correct or reject the sample. See SOP Sample Custody and Documentation for more detail.

14.5 Sample Refrigeration/Preservation

14.5.1 All samples requiring refrigeration as part of preservation shall be stored in locked coolers maintained at 4 degrees C +/- 2 degrees. The temperature shall be verified during regular work hours (Monday-Friday 8:00am-4:30pm) unless additional monitoring is required, and corrections made if needed. The responsible analyst documents the temperature readings. In case of cooler failure, samples shall be moved to a backup cooler or shall be iced until repairs are completed.

14.5.2 All samples shall be checked to verify that samples requiring chemical or thermal preservation have been properly handled. The sample custodian shall verify and document thermal preservation. The analysts shall verify chemical preservation, such as pH prior to the analysis of samples for volatile analysis shall be verified by the analyst following the aliquot being taken for analysis or after the analysis is complete whichever best protects the sample integrity. Documentation shall be recorded in the Log-In Form or bound notebook by the sample custodian or designee or in the lab notebook or bench sheet for the analysis.

14.6 Sample Disposal Non-Hazardous

14.6.1 After such time as has expired that the sample integrity can no longer be considered valid (one month following the maximum holding time), any remaining samples

Controlled Document

shall be moved to a general sample holding area to be stored for three to six months. (Times may vary depending upon available storage space.) Semi-volatile extracts shall be held for a minimum of six months. Extended storage times can be implemented if requested by the client or required by the regulating agency.

14.6.2 Following the extended storage time, the Lab Director or designee shall give permission to the sample custodian to dispose of the remaining samples. The sample custodian shall document that the samples have been disposed of properly in the sample-tracking log. The sample custodian is responsible for monitoring the length of time the samples are held in storage. The samples are disposed in several ways:

1) Samples are returned to the client.

2) Samples are deposited into proper waste containers to be handled by Commercial waste handlers (Waste Oil Company, BFI, or Southern Waste Services).

3) Samples are depleted during analysis.

14.6.3 It is the responsibility of the sample custodian to properly dispose of, record transfers, and contact clients regarding disposal. Laboratory/Sample waste is contained in the area designated as the waste holding area (locked building behind the Lab). Waste oil shall be separated from chlorinated solvent waste. Non-hazardous waste shall be separated from hazardous waste. All waste shall be stored in proper waste drums supplied by the waste handler. Entrance to the waste storage area is restricted to only those authorized by management. This area is to remain locked, except during inspections and waste transfers. Employees entering this area must wear appropriate safety equipment.

Controlled Document

14.7 Sample Disposal Hazardous

14.7.1 It is the policy of Micro-Methods to collect, store, package, label, ship and dispose of hazardous wastes in a manner which ensures compliance with all Federal, State and local laws, regulations, and ordinances. These procedures are also designed to minimize employee exposure to hazards associated with laboratory-generated hazardous wastes and to afford maximum environmental protection.

14.7.2 Policies and procedures for operation of the laboratory's environmental compliance program are detailed in Micro-Methods, Inc.'s, Chemical Hygiene Plan.

14.7.3 Micro-Methods is subject to the Resource Conservation and Recovery Act regulations, as contained in the Mississippi Rules for Hazardous Waste Management for the handling, storage, and disposal of laboratory-related hazardous wastes.

14.8 Hazardous Waste Determination

14.8.1 The determination for whether or not a waste is a regulated substance is made by applying the following criteria either individually or in combination based on the following criteria:

1) Is the waste material listed in 40 CFR 261.30 – 261.33?

2) Does the material conform to any of the listed characteristics specified in 40 CFR 261.20 – 261.24?

3) Does the generator have personal knowledge of the hazardous nature of the material?

4) Would disposal of the material as non-regulated waste pose an environmental threat and/or leave Micro-Methods or our clients open to future liabilities?

14.8.2 Waste, which meets any of the above criteria, must be handled and disposed of as regulated waste.

14.9 Sample Holding Times

14.9.1 Sample Holding Times begin with the date and time of the collection of the sample. Holding time for any analysis is defined as the "technical holding time" or actual age of the sample, that is, the amount of time that has lapsed between the time the

Controlled Document

sample was collected and the time the sample was analyzed or prepared for analysis. Some methods have holding times prior to sample prep and another period of time for analysis of the prepared solutions (e.g. BNAs, TCLP analyses).

14.9.2 It is the responsibility of the Sample Custodian, at log in to determine if the samples are received within the holding time requirement. In the event that a sample is submitted outside of the required holding time the Sample Custodian will contact the client regarding the anomaly to determine if re-sampling is possible or get authorization to proceed with the analysis. If the client authorizes the analysis, the Sample Custodian shall record the date and time of the authorization on the Sample Receipt form, the name of the person contacted. All data associated with the holding time violation must be qualified with an appropriate qualifier and discussed in the narrative report. Data with qualified results must not be used for compliance purposes and the client must be made aware of this.

14.9.3 In the event that a sample is received within the required holding time but in such a time that causes the sample to have to be analyzed or prepared immediately to avoid exceeding the holding time, the client may be charged additional fees to compensate for the rush status. For example, a client sends in a water sample for BNA analysis six days after collecting the sample, leaving the laboratory only one day to extract the sample, an additional "rush charge" may apply. It is the responsibility of the Sample Custodian to make the Lab Director or Lab Supervisors aware of this type situation and document this on the Sample Receipt Form.

14.9.4 It is the responsibility of the analysts and supervisors to monitor all holding time requirements once the sample has been logged in and received into the appropriate laboratory for analysis. This is accomplished using LIMS queries to extract the holding time information. To be most effective and minimize the holding violations the queries must be run frequently (once a day at minimum). In the event that an analyst detects a holding time violation, the analyst is responsible to notify the supervisor of the violation and initiate corrective action.

14.9.5 The Lab Supervisors must verify and document that all of the samples under their areas of responsibility were prepared and analyzed within the required holding time. In the event that holding time requirements are exceeded as a result of laboratory problems, the Lab Supervisor shall notify the client by phone as soon as possible to discuss re-sampling and reanalysis (the cost of this action is the burden of the laboratory). If re-sampling is not an option, the data must be qualified and discussed in the narrative and the analysis is charged at a fee rate acceptable to the client.

14.9.6 Below are the sample Container type, preservation, and holding time information:

Controlled Document

14.10 Sample Preservation, Holding Times, Container Type, and Amounts

Analysis	Method	Preservation			Holding Times			Container Type	Required Sample Amount
		Water	Soil/ Sediment	Waste	Water	Soil/ Sediment	Waste		
Acidity	SM2310-B	4° C			14 days			Plastic or Glass	250mL
Acid Sprung Sulfide	9030B	4° C			7 days	28 days		Plastic or Glass	1L 250ml
Alkalinity Bicarbonate/Carbonate	SM2320-B SM2320-B	4° C 4° C			14 days 14 days			Plastic or Glass Plastic or Glass	250ml 250ml
Ammonia (as n)	350.3 4500NH3-C,	4° C, H_2SO_4 to pH <2			28 days			Plastic or Glass	250mL
Ash	ASTM D 482		4° C	4° C		28 days	7 days	Plastic or Glass	50g 1L
BOD_5 CBOD	SM5210-B SM5210-B	4° C 4° C			48 hours 48 hours			Plastic or Glass Plastic or Glass	1 L 1L
BS&W	ASTM D 4007	4°C			7 days			Glass	125mL
BS&W Oil	ASTM D 4007						7 days	Glass	250mL
BTU	ASTM 2382	4° C	4° C	4° C	28 days	28 days	28 days	Plastic or Glass	1L 125mL
Bromide	SM4110-B	None Required			28 days			Plastic or Glass	250mL
Bromine	Hach 8016	4° C			24 hours			Plastic or Glass	250ml

Carbon Dioxide, Free	SM4500-CO2C				Analyze Immediately			Glass	1L
Cetane	ASTM D 976	None Required	4°C		28 days			Glass	1L
Chemical Oxygen Demand (COD)	EPA 410.4	4° C, H_2SO_4 to pH <2	4° C		28 days	Not Specified		Plastic or Glass	125mL
Chloride	SM4110 B SM4500-Cl B	None Required	None Required	None Required	28 days	Not Specified		Plastic or Glass	250mL
Chlorine, Total & Free	SM4500-Cl-G	Analyze Immediately			0.5 hours/ Stat			Plastic or Glass	100mL
Chlorine, Bomb	ASTM D 808	4° C	4° C	4° C	28 days	28 days	28 days	Plastic or Glass	1 L 50g
Coliform, Fecal	SM9222D SM92221E	4° C			6 hr.			125ml plastic w/Na2S2O3	125mL
Coliform, Total	SM9223B	4° C			24 hr.			125ml plastic w/Na2S2O3	125mL
Color	SM 2120 C	4° C			48 hours			Plastic or Glass	250mL
Conductivity	SM2510 B	4° C			28 days			Plastic or Glass	250mL
Corrosivity	SW846-1110	4° C	4° C		28 days			Plastic or Glass	250mL
Cyanide, Amendable	SM4500-CN-G	4° C, 4 drops per 100mls of sample 2N Zn Acetate & NaOH to pH >9	4°C	4°C	14 days	14 days	14 days	Glass	1L
Cyanide, Reactive	SW846-9013	4° C, 4 drops per 100mls of sample 2N Zn Acetate & NaOH to pH >9	4° C	4° C	14 days	14 days	14 days	Glass	1L 50g
Cyanide, Total	SM4500-CN-E	4° C, Na OH to pH >12	4° C		14 days, 24 hours if sulfide present			Plastic or Glass	1 L 30g

14.10 Sample Preservation, Holding Times, Container Type, and Amounts –Section 2

Analysis	Method	Preservation			Holding Times			Container Type	Required Sample Amount
		Water	Soil/ Sediment	Waste	Water	Soil/ Sediment	Waste		
Cyanide, Weak Acid	SM4500CN-I	4° C, 4 drops per 100mls of sample 2N Zn Acetate & NaOH to pH >9			14 days			Glass	1L
Dissolved Oxygen	SM4500-0G	Analyze Immediately			Analyze Immediately			Plastic or Glass	250mL
Enterococci	ATSTM D6503-99	4° C			24 Hour			Plastic	120mL
Fluoride	SM4500-F-D SM4500-F-B	None Required			28 days			Plastic	250mL
Formaldehyde	8110 Hach, NIOSH3500	None Required			24 Hour 7 days			Glass	250mL 20mL
Gravity, API	ASTM D287	4° C			7 days			Plastic or Glass	1L
Hardness	SM2340C SM2340B	4° C			6 months			Plastic or Glass	1L
Hexa-chromium	SM3500-Cr-D	4° C	4° C		24 hours	Extract within 1 month- Analyze within 4 days		Plastic	250mL

Mercury	EPA 245.1, 7471, 7470A, 200.7	HNO_3 to pH <2	4° C		28 days	28 days		Plastic	250mL
Mercury-TCLP	7470A	None	Not specified	Not specified	56 days	28 days to leachate, then 28 days after leachate to analysis	28 days to leachate, then 28 days after leachate to analysis	Plastic 0r Glass	1 L 250mL soil
Metals, except Mercury Single Element	6010B, 200.7, 7000 series, 200 series	HNO_3 to pH <2	4° C		6 months	6 months		Plastic or Glass Glass Unacceptable for Sodium	250mL
Metals 2 or more Elements	6010B, 200.7, 7000 series, 200 series	HNO_3 to pH <2	4° C		6 months	6 months		Plastic or Glass Glass unacceptable for Sodium	1L

14.10 Sample Preservation, Holding Times, Container Type, and Amounts - Section 3

Analysis	Method	Preservation			Holding Times			Container Type	Required Sample Amount
		Water	Soil/ Sediment	Waste	Water	Soil/ Sediment	Waste		
Metals-TCLP, except Mercury	6010B	HNO_3 to pH <2	None	None	360 days	180 days to leachate, then 180 days after leachate to analysis	180 days to leachate, then 180 days after leachate to analysis	Plastic or Glass	250 mL
Moisture	ASTM D2216		4° C		1	14 days		Glass	30g 125mL
Nitrate as N	SM 4110B	4° C	4° C		48 hours			Plastic or Glass	250mL
Nitrite	SM 4500-N02B	4° C	4° C		48 hours			Plastic or Glass	250mL
Nitrate/Nitrite	SM 4110B	4° C	4° C		48 hours			Plastic or Glass	250mL
Nutrients (Ammonia, TKN, NO_3, NO_2, -N, total P)	See individual parameters for Methods	4° C, H_2SO_4 to pH <2	4° C		28 days			Plastic or Glass	1L
Oil and Grease	EPA 1664	4° C, HCL or H_2SO_4 to pH <2			28 days			Glass	1 L
Oil and Grease, Sox let	EPA 9071B		4° C	4° C	14 days			Glass	1L
Phosphate - Ortho	SM4110B EPA 365.3	4° C			48 hours			Plastic or Glass	250mL
Phosphate, Total	SM4110B EPA 365.3	4° C, H_2SO_4 to pH <2			48 hours			Plastic or Glass	250mL

PCB's in Oil	EPA 600.4-81-045	4° C			30 days			Glass	40mL
PCB's	EPA8082	4° C	4° C		7 days	14 days		Glass	1L 30g
Paint Filter Test	EPA 9095A	4° C	4° C	4° C	28 days			Glass	1L
Particle Count	NAS 1638	None Required					60 days	Plastic or Glass	125mL
Phenols (4AAP Colorimetric)	EPA 420.1 EPA 9065	4° C, H_2SO_4 to pH <2			28 days			Plastic or Glass	1L
Phosphorus	EPA 365. 3	4° C, H_2SO_4 to pH <2			28 days			Plastic or Glass	250mL
pH	SM4500H&B				Analyze immediately			Plastic or Glass	250mL
pH	SW 846-9045 , 9040	4° C	4° C	4° C	28 days			Plastic or Glass	250mL
Plate Count	9215-A	4° C			8Hr. Max 24 hr			125ml plastic w/Na2S2O3	125mL
Solids, Total	SM2540 B	4° C			7 days			Plastic or Glass	1L
Solids, Total Dissolved	SM2540C	4° C			7 days			Plastic or Glass	1L
Solids, Total Suspended	SM2540D	4° C			7 days			Plastic or Glass	1L
Specific Gravity	SM 2710F	4° C			72 hours			Plastic or Glass	1L
Sulfates	EPA 300.0 SM 4110B ASTM D516	4° C			28 days			Plastic or Glass	250mL

14.10 Sample Preservation, Holdiug Times, Container Type, and Amounts – Section 4

Analysis	Method	Preservation			Holding Times			Container Type	Required Sample Amount
		Water	Soil/ Sediment	Waste	Water	Soil/ Sediment	Waste		
Sulfide, Reactive	SW846-9030B	4° C, 40 drops 2N Zn Acetate & NaOH to pH >9	4° C		14 days	14 days		Plastic or Glass	1L
Sulfide, Total	SM4500-S2-F SM4500-S2-D	4° C, 40 drops 2N Zn Acetate & NaOH to pH >9	4° C		7 days	7 days		Glass	1L 250mL
Sulfite	SM4500-SO32-B	4° C			Analyze Immediately			Plastic or Glass	250mL
Sulfur	ASTM D129	4° C		4° C	28 days		28 days	Plastic or Glass	125mL
Surfactants	Hach 8028	4° C			24 hr			Glass	1L
TKN, Total Kjeldahl Nitrogen	SM4500NorgB TKN	4° C, H_2SO_4 to pH <2	4° C	4° C	28 days	28 days	28 days	Glass	1L 250mL
TOC (Total Organic Carbon)	SM5310C	4° C H3PO4 to pH<2			28 days			Glass	125mL
Tannin & Lignin	Hach 8193	4° C			7 days			Plastic or Glass	1L
Temperature	SM2550B				Analyze Immediately	Analyze Immediately	Analyze Immediately	Plastic or Glass	250mL
Turbidity	EPA 180.1	4° C			48 hours in dark			Plastic or Glass	250ml

Extractable (Pesticides, Herbicides, Semi-volatiles)	608, 610, 625, 8041, 8100, 8151, 8081, 8082, 8270, 8310	4° C			7 days to extraction, then 40 days to analysis			Glass	2 L Required for each analysis 4L Required for QC
Extractable (Pesticides, Herbicides, Semi-volatiles)	8041, 8100, 8151, 8081, 8082, 8270, 8310		4° C	4° C		14 days to extraction, then 40 days to analysis	14 days to extraction, then 40 days to analysis	Glass	250mL
Extractable (Pesticides, Herbicides, Semi-volatiles)-TCLP	1311/3520 or 3510/8081	4° C	4° C	4° C	14 days to Leachate, 7 days to extraction, 40 days to analysis	14 days to Leachate, 7 days to extraction, 40 days to analysis	14 days to Leachate, 7 days to extraction, 40 days to analysis	Glass	2 L Required for each analysis 4L Required for QC 250ml/soil

14.10 Sample Preservation, Holding Times, Container Type, and Amounts –Section 5

Flashpoint	ASTM-D93	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Glass	250mL
Viscosity	ASTM D445	4° C			100mL			Plastic or Glass	100mL

Volatile Organic Compounds	5035/8260		4° C Sodium Bisulfate (see Method)			14 days UST 7 days		125ml clear jar unless specified for Method 5035 use 3-40ml vials w/Sodium Bisulfate, 1-40ml vial w/5ml methanol, 1-125ml jar	125ml clear jar unless specified for Method 5035 use 3-40ml vials w/Sodium Bisulfate, 1-40ml vial w/5ml methanol, 1-125ml jar
Volatile Organic Compounds	5030/8260	4° C, HCL to pH <2			14 days		14 days	40ml pre-cleaned VOA Vials	2 vials per sample point need 4 vials for QC
Volatile Organic Compounds	624	4° C, HCL to pH <2			14 days preserved, 7 days unpreserved			40ml pre-cleaned VOA Vials	2 vials per sample point need 4 vials for QC
Volatile Organic Compounds-TCLP	1311/8260	4° C	4° C		28 days	14 days to Leachate, 14 days to analysis	14 days to Leachate, 14 days to analysis	Water/40ml pre-cleaned VOA Vials Soil/Glass	4 125mL
Volatile Solids	EPA 160.4		4° C	4° C		7 days	7 days	Plastic or Glass	1L
Water Content, Karl Fischer	ASTM D1744	4° C		4° C	28 days		28 days	Plastic or Glass	125mL
Water By Distillation	ASTM D4006	4° C		4° C	28 days		28 days	Plastic or Glass	125mL
Diesel Range Organics/Oil Range Organics (DRO/ORO)	8015 modified	4° C			7 days to extraction, then 40 days to analysis			Glass	2L
Diesel Range Organics/Oil Range Organics (DRO/ORO)	8015 modified		4° C	4° C		14 days to extraction, then 40 days to analysis	14 days to extraction, then 40 days to analysis	Glass	250ml
Gasoline Range Organics (GRO)	8015 modified	4° C HCl to pH <2			14 days			40ml pre-cleaned VOA Vials	4

Gasoline Range Organics (GRO)	8015 modified		4° C	4° C		14 days	14 days	125ml clear jar unless specified for Method 5035 use 3-40ml vials w/Sodium Bisulfate, 1-40ml vial w/5ml methanol, 1-125ml jar	125ml clear jar unless specified for Method 5035 use 3-40ml vials w/Sodium Bisulfate, 1-40ml vial w/5ml methanol, 1-125ml jar	
Acetylaldehyde	8315	4°C	4°C	4°C		72 hours	72 hours	Glass	2-1L	
EDB	8260	4°C	4°C	4°C		7 days	7 days	40ml voa vial no preservative	2-40ml vials	
Ethylene Glycol	8015	4°C	4°C	4°C		14 days	14 days	Glass, Plastic container (no icing) okay for Wellman only	2-1L	

15.0 ANALYTICAL PROCEDURES

15.1 Use of Approved Methodology

15.1.1 All measurements shall be made using methodology appropriate for the specific purpose. The Lab Director shall evaluate each method and Supervisors to determine if this method is the most appropriate method for achieving the required results. All technicians shall be required to read the methods that they shall employ and must demonstrate proficiency in the method before being allowed to perform the analytical procedure. Only approved procedures and methods shall be used. All instructions, standards, manuals and reference data relevant to the work of the laboratory shall be kept up to date and made readily available to personnel.

15.1.2 It is the responsibility of the Lab Supervisors and Lab Director to approve all methods and procedures for use. They shall consist of EPA Methods, NIOSH Methods, Standard Methods for the Examination of Water and Wastewater, SW-846 Methods, ASTM procedures and other procedures consistent with NELAP/LELAP requirements.

15.1.3 The laboratory shall use appropriate methods and procedures for all environmental tests within its scope of accreditation. (These include sampling, handling, transport, storage and preparation of samples, and, where appropriate, an estimation of the measurement uncertainty as well as statistical techniques for analysis of environmental test data).

15.1.4 The Lab Supervisors are responsible for writing and maintaining instructions on the use and operation of all relevant equipment, and on the handling and preparation of samples where the absence of such instructions could jeopardize the results of environmental tests.

15.1.5 The following methods and procedures have been approved for use in this laboratory:

Controlled Document

15.2 List of Approved Methods

Petroleum Analysis Methodology Reference Table

Method	Description
ASTM 977	Stabilization of Lime
ASTM C25	Calcium Hydroxide
ASTM C39	Strength Test/Concrete
ASTM D129	Sulfur, oxygen bomb
ASTM D1298	Specific Gravity
ASTM D156	Color
ASTM D1744	Water Content, Karl Fisher
ASTM D189	Carbon, Conradson
ASTM D2159	PONA
ASTM D2270	Viscosity @ 40 degrees C
ASTM D2276	Particulate Contaminant
ASTM D2382	BTU
ASTM D2500	Pour Point
ASTM D2709	B S & W
ASTM D2717	Resistivity
ASTM D287	Gravity A.P.I.
ASTM D 3227	Mercaptan Sulfur
ASTM D 3228	Nitrogen, Kjeldahl (TKN-N)
ASTM D 323	Reid Vapor Pressure (RVP)
ASTM D 4055	Pentane (Insoluble)
ASTM D 4178	Moisture
ASTM D 445	Viscosity, Kinematic
ASTM D 473	Sediment by Extraction
ASTM D 482	Ash
ASTM D 524	Carbon, Ramsbottom
ASTM D 664	Neutralization Number
ASTM D 665	Rust Prevention Test
ASTM D 808	Chlorides, Halides, Halogens
ASTM D 811	Silicon
ASTM D 86	Distillation, Gasoline
ASTM D 92	Flash Point Open Cup
ASTM D 93	Flash, PM Closed Cup
ASTM D 95	Water by Distillation
ASTM D 974	Acid Number
ASTM D 976	Cetane-calculated
GC	LPG, Butane

Controlled Document

Environmental Analysis Methodology Reference Table

EPA 120.1	Conductivity
EPA 130.1	Hardness, Total as CaCO3
EPA 140.1	Odor
EPA 150.1	pH (Water)
EPA 160.1	Total Dissolved Solids
EPA 160.2	Total Suspended Solids
EPA 160.3	Total Solids
EPA 160.4	Volatile Suspended Solids
EPA 160.5	Residue, settable
EPA 166.4	N-Hexane Ext. Mat'l
EPA 170.1	Temperature
EPA 180.1	Turbidity
EPA 305.1	Acidity, as CaCO2
EPA 305.2	Acidity (Titrimetic)
EPA 310.1	Alkalinity (CaCO3)/Bicarbonate
EPA 330.5	Chlorine, Total Residual (potable)
EPA 335.1	Cyanide, Amendable
EPA 335.2	Cyanide, Total
EPA 340.2	Fluoride, Electrode
EPA 350.3	Ammonia-N
EPA 351.3	Nitrogen, Kjeldahl, Total
EPA 352.1	Nitrate, Colorimetric
EPA 353.3	Nitrate-Nitrogen
EPA 354.1	Nitrite-Nitrogen
EPA 360.1	Dissolved Oxygen
EPA 365.3	Total Phosphorous
EPA 370.1	Silica, Dissolved
EPA 375.3	Sulfate (as SO4)
EPA 376.2	Sulfide (S)
EPA 377.1	Sulfite
EPA 405.1/SM5210	BOD
EPA 410.2	COD
EPA 413.2	Oil & Grease (IR)
EPA 415.1	TOC/DOC (Filtered)
EPA 415.2	TOC
Hach Method	Silica, Soluble
Hach Method 8139	Cyanuric Acid
Ion Chromatograph	Formate
Potentiometric	Sulfide as Sulfur

Controlled Document

Environmental Analysis Methodology Reference Table

EPA 200.7-ICP	Metals by ICP
EPA 202.2-Furnace	Aluminum, AA Furnace
EPA 204.2-Furnace	Antimony, AA Furnace
EPA 206.2-Furnace	Arsenic, AA Furnace
EPA 208.2-Furnace	Barium, AA Furnace
EPA 210.2-Furnace	Beryllium, AA Furnace
EPA 213.2-Furnace	Cadmium, AA Furnace
EPA 218.2-Furnace	Chromium, AA Furnace
EPA 218.4-Hexavalent	Hexa-Chromium
EPA 219.2-Furnace	Cobalt, AA Furnace
EPA 220.2-Furnace	Copper, AA Furnace
EPA 236.2-Furnace	Iron, AA Furnace
EPA 239.2-Furnace	Lead, AA Furnace
EPA 243.2-Furnace	Manganese, AA Furnace
EPA 245.1-Cold Vapor	Mercury
EPA 246.2-Furnace	Molybdenum, AA Furnace
EPA 249.2-Furnace	Nickel, AA Furnace
EPA 255.2-Furnace	Platinum, AA Furnace
EPA 270.2-Furnace	Selenium, AA Furnace
EPA 272.2-Furnace	Silver, AA Furnace
EPA 273.2-Furnace	Sodium, AA Furnace
EPA 279.2-Furnace	Thallium, AA Furnace
EPA 282.2-Furnace	Tin, AA Furnace
EPA 283.2-Furnace	Titanium, AA Furnace
EPA 286.2-Furnace	Vanadium, AA Furnace
EPA 289.2-Furnace	Zinc, AA Furnace
EPA 602	BTEX
EPA 604	Phenolics
EPA 608	Total Pesticides/PCB's
EPA 610	Semi-Volatile
EPA 624	Purgeables
EPA 625	Base/Neutrals & Acids
EPA-Trans. Oil, 1980	PCB
EPA 1664	Oil and Grease
GC/FID	Fingerprinting
GC/MS	Identity of Unknown

Controlled Document

Environmental Analysis Methodology Reference Table

SW 846, 1010	Flash Point, Ignitibility
SW 846, 1110	Corrosivity – Steel
SW 846, 1311	TCLP Extraction
SW 846, 1311/200.7	TCLP Metals
SW 846, 1311/8081	TCLP Pesticides
SW 846, 1311/8150	TCLP Herbicides
SW 846, 1311/8260	TCLP Volatiles
SW 846, 1311/8270	TCLP Semi-Volatiles
SW 846, 3510	Separatory Funnel Liquid-Liquid Ext.
SW 846, 3510/8081	Total Pesticides – manual
SW 846, 3510/8151	Total Herbicides – manual
SW 846, 3510/8270	Total Semi-Volatiles – manual
SW 846, 3520	Continuous Liquid-Liquid Ext.
SW 846, 3520/8081	Total Pesticides – continuous
SW 846, 3520/8270	Total Semi-Volatiles – continuous
SW 846, 3550	Sonication Extraction
SW 846, 3550/8081	Total Pesticides – sonication
SW 846, 3550/8151	Total Herbicides – sonication
SW 846, 3550/8270	Total Semi-Volatiles – soil
SW 846, 3610	Alumina Column Clean up
SW 846, 3611	Alumina Column Clean up & Sep.
SW 846, 3620	Florisil Column Clean up
SW 846, 3630	Silica Gel Clean up
SW 846, 3640	Gel Permeation Clean up
SW 846, 3650	Acid-Base Partition Clean up
SW 846, 3660	Sulfur Clean up
SW 846, 5030	Purge & Trap
SW 846, 5050	Chlorine plus Chloride
SW 846, 6010A	ICP Metals
SW 846, 6010A/1311	ICP Metals
SW 846, 7040A/1311	Mercury – Cold Vapor
SW 846, 7041	Antimony-Furnace
SW 846, 7060A	Arsenic-Furnace
SW 846, 7131A	Cadmium-Furnace
SW 846,7191	Chromium-Furnace
SW 846, 7196A	Chromium-Hexa/Colorimetric
SW 846, 7197	Chromium-Hexa/Chelation/Extr.
SW 846, 7211	Copper-Furnace
SW 846, 7421	Lead-Furnace
SW 846, 7461	Manganese-Furnace
SW 846, 7471	Mercury-Cold Vapor
SW 846, 7481	Molybdenum-Furnace
SW 846, 7521	Nickel-Furnace
SW 846, 7740	Selenium-Furnace

Controlled Document

Environmental Analysis Methodology Reference Table

SW 846, 7761	Silver-Furnace
SW 846, 7841	Thallium-Furnace
SW 846, 7911	Vanadium-Furnace
SW 846, 8015	Nonhalogenated Volatile Organics
SW 846, 8020	Aromatic Volatile Organics
SW 846, 8021	Halogenated & Aromatic Volatiles
SW 846, 8041	Phenols
SW 846, 8041/8015B	Phenolics/Nonhalogenated Compounds
SW 846, 8041/8100	Phenols/PNA
SW 846, 8060	PHTHALATE ESTERS
SW 846, 8082	PCB Total
SW 846, 8100	PAH
SW 846, 8260B	GC/MS-Total Volatiles
SW 846, 8270/1311	TCLP tot/liq: Semi-Volatile
SW 846, 8310	PAH – HPLC
SW 846, 9013	Reactive Cyanide
SW 846, 9020	Total Halogens
SW 846, 9030A Sec. 7	Acid Sprung Sulfide (Solid/Water)
SW 846, 9045C	pH (Soil)
SW 846, 9095	Paint Filter Test

Controlled Document

Environmental Analysis Methodology Reference Table

Std Method 102001	Algal
Std Method 210-C	Salinity
Std Method 2120-B	Color, platinum cobalt
Std Method 2540F	Settleable Solids
Std Method 3500-CR D	Hexa-Chromium, Colorimetric
Std Method 3500-FED	Iron II
STD Method 4110B (IC)	Cl, SO4, Br, NO#-N, o-PO4
Std Method 4500	Carbon Dioxide (Free)
Std Method 4500 C02C	Carbon Dioxide (Total)
Std Method 4500-1B	Iodine
Std Method 4500-C1-B	Chloride (Water)
Std Method 4500-C1-G	Chlorine, Free
Std Method 4500-N02B	Nitrite, Colorimetric
Std Method 4500-P D	Orthophosphate
Std Method 4500-PB.4	Total Phosphorus
Std Method 4500-S2-D	Sulfide
Std Method 4500-SiE	Silica, Total
Std Method 4500B	Hydroxyl Ion
Std Method 5210B	BOD
Std Method 5530C	Phenol 4AAP, Total/Colorimetric
Std Method 5540C	Anionic Surfactants
Std Method 9213F	Pseudomonas
Std Method 9215-A	Heterotrophic Plate Count
Std Method 9221D	Coliform, Total
Std Method 9221E	Coliform, Fecal – Mult/tube
Std Method 9222D	Coliform, Fecal – Membrane
Std Method 9223B	Coliform (Colilert Method)
Std Method 9230B	Fecal Streptococci
Std Method 4500-C1G.DPD	Total Residual Chlorine (Colorimetric)
Std Method 9215B	Heterotrophic – Pour Plate
Std Method 4500 CN-I	Cyanide, Weak Acid

Industrial Hygiene Analysis Methodology Reference Table

XRF	Lead by XRF
NIOSH #0600	Nuisance Dust
NIOSH #1501	Styrene
NIOSH #3500	Formaldehyde
NIOSH #5512	Pentachlorophenol
NIOSH #7082	Lead in air
NIOSH #7400	PCM
NIOSH #7601	Silica in air
NIOSH #S274/S283	Pesticides/Air
NIOSH #3502	Phenol
NIOSH #5023	Gravimetric Determination
OSHA #1501	Charcoal Tubes
OSHA Method #39	Pentachlorophenol

Controlled Document

15.3 Analytical Methods/Standard Operating Procedures

15.3.1 The laboratory staff shall use appropriate test methods and procedures for all tests and related activities within its responsibility, which include sample collection, sample handling, transport and storage, sample preparation and sample analysis. The method of testing shall be consistent with the accuracy required and shall contain any standard specifications relevant to the calibrations or tests concerned. The laboratory staff shall have available to them and use EPA approved methods (examples EPA methods, SW-846 Methods), NIOSH methods, ASTM methods, and OSHA methods for the required testing and shall apply them as they are intended. For reporting to, or in states with regulating agencies, such as LAC, only methods approved by the regulating agency shall be used. Substitute methods shall not be used without the approval of the client or regulating agency. Non-validated methods shall not be used unless requested by the client or regulating agency in writing.

15.3.2

15.3.3 Deviations from methods approved by the regulating agency or department must be approved in writing by the regulating agency prior to the deviation. When approved methods or appropriate modification is not available, data must be accompanied by a validation package containing the following information:

15.3.4 origin of method

15.3.5 deviations from the standard

15.3.6 reason for the deviations

15.3.7 effects of the deviations

15.3.8 comparison with the regulating agency approved method that has been replaced with documentation which indicate that the results from the modified method are equal to or better than the original method

15.3.9 Any federal and or/state regulations, which apply to the request for an alternate method, shall have priority over LAC regulations, and shall be utilized in the assessment of the request.

15.3.10

15.3.11 All deviations shall be documented and validated according to NELAC 5.10.2.1 and Appendix C, which require a demonstration of capability, and shall be made available to the client and other recipients of the final reports. In house copies of Analytical Methods that are performed shall be kept current as they are issued. Copies may be paper, diskettes, or CDs. It is the responsibility of the Lab Director and Lab Supervisors to maintain the methods current. Methods shall be modified and adopted as Standard Operating Procedures.

15.3.12 The SOPs shall indicate the method was modified. Standard operating procedures (SOPs) describe the way specific operations and methods are to be performed. These include sampling operations, sample preparation, calibrations, measurement

Controlled Document

procedures, and any operation that is done on a repetitive basis. "Standard" means that it specifies the way the operation is done on each occasion, which may or may not be a procedure developed by a standards-writing organization. However, when such is available, (EPA approved Methods, i.e.,) preference is always given to using published standard methods when applicable.

15.3.13 In all SOPs the requirements of NELAC shall take precedent over the format of the cited document.

1) 15.3.7 All methods employed shall be converted to SOPs, as feasible, which shall contain the following information if known or available (from ASTM format or from *EPA-QA-G6*) and shall contain information to meet the requirements of NELAC:

2) Scope and Application
3) Summary of Method
4) Method Detection Limit/Reporting Limit
5) Definitions
6) Interferences
7) Health and Safety Warnings
8) Cautions
9) Personnel Qualifications
10) Equipment and Supplies
11) Reagents and Standards
12) Sample Collection, Preservation, Handling, & Storage
13) Calibration and Standardization
14) Procedure
15) Data Analysis and Calculations
16) Data and Records Management
17) Pollution Prevention/Waste Management
18) Quality Control/Quality Assurance
19) Corrective Actions
20) References
21) Tables, Diagrams, Flowcharts, and Validation Data

Controlled Document

15.3.8 Standard operating procedures shall be written for all methods, for all routine tasks, and when clarification of a matter relating to the routine operation of any laboratory procedure. SOPs shall be written by only the following: the Lab Supervisors, the QAO and the Lab Director. All SOPs must be evaluated by peers of the initiator, and approved by signature by the SOP generator, QAO and Management.

15.3.9 SOP manuals shall be evaluated at a minimum, annually, and approved by signature of lab supervisors, QAO and Management. All revisions must also be approved in likewise manner.

15.3.10 SOP manuals shall be kept in the labs in which they are to be used, available to all analysts.

15.3.11 Any procedure that has been revised must be edited in the computer, recording the revision number, issue date, revision date, and implementation date, with approval signatures. Copies shall be sent to those affected by the change. Current SOPs shall be maintained in ring binders or individually bound and outdated SOPs shall be kept on file.

15.3.12 It is the responsibility of the laboratory's supervisors to ensure that the essential standards outlined in NELAC Appendix D or mandated methods or regulations (whichever are more stringent) are incorporated into their method manuals.

15.4 Instrument Calibrations General Guidelines

15.4.1 Any equipment or methodology that is used to provide numerical data that can influence a measured value shall be calibrated to the accuracy requirements set forth in the methods or described in the Standard Operating Procedures for its use. Support equipment or instrumentation shall be calibrated annually at a minimum. Calibration data shall be retained as permanent record for a minimum of seven years or as required by the regulating body or client following the issuance of the final report. Records shall be stored in areas suitable for maintaining the integrity of such data. Calibration schedules are established for all aspects of physical and chemical measurements and shall be strictly observed.

15.4.2 Calibrations shall be performed using reference standards or support equipment used solely for calibrations (cannot be used for sample measurement).

15.4.3 Physical standards and measuring devices shall have currently valid calibrations, traceable to national standards or purchased certified solutions approved for use by EPA (A2LA, NIST) where available. All dilutions of standards shall be recorded in

Controlled Document

standard logbooks, with associated certification documentation being retained on file as permanent record for a minimum of seven years or as required by the regulating agency or client.

15.4.4 Corrections for impurities in neat standards shall be applied as required by the accuracy of the data.

15.4.5 Chemical calibrations and standardizations shall be made using standards prepared by methods and procedures reflecting state of the analytical art and materials of certified purity.

15.4.6 Calibrations standards obtained commercially must adhere to the requirements for standards, with suppliers certifying compliance. Vendors must provide evidence of the quality of the services and materials. Standards used in the initial and continuing calibration shall be traceable to a national standard, when available.

15.4.7 Standard curves shall be prepared to adequately cover the expected concentration ranges of the instrument and samples following Relative Standard Deviation or Calibration factor requirements and control requirements stated in the method or SOPs. The lowest standard shall correspond to the lowest quantitation level for which quantitative data are reported to the extent possible.

15.4.8 New standard curves shall be prepared whenever an out-of-control condition is indicated, following instrument maintenance that could affect the calibration, after new standards are prepared, following long periods of instrument inactivity, or when training personnel.

15.4.9 The acceptability for use or continued use of instrumentation shall be according to the needs of the analysis or application for which the equipment is being used.

15.4.10 To ensure that the data is of known quality and is appropriate for a given regulation or decision the essential elements that define the procedures and documentation for initial instrument calibration and continuing instrument calibration verification shall be followed. Whenever reference methods are combined into standard operating procedures (e.g. 624 and 8260) the more stringent criteria of the methods shall be used for acceptance criteria. When it is unclear which standard is more stringent, the requirements of the regulation or mandated test shall be method followed.

15.4.11 Unless mandated by the reference method, regulating agency, or program the initial calibration response factors or calibration factors shall be used for quantitation and the continuing calibration shall be used to verify the initial calibration.

Controlled Document

15.4.12 The details of the initial instrument calibration procedures including calculations, integrations, and acceptance criteria and associated statistics included shall be referenced in the test method SOP.

15.4.13 When initial instrument calibration procedures are referenced in the test method the referenced material documentation shall be retained by the laboratory for 7 years and available for review.

15.4.14 Sufficient raw data records shall be retained to permit reconstruction of the initial instrument calibration. Examples are: calibration date, test method, instrument, analysis date, each analyte name, analyst's initials or signature; concentration and response, calibration curve or response factor; or unique equation or coefficient used to reduce instrument responses to concentration.

15.4.15 To the extent possible all initial instrument calibrations shall be verified with a standard obtained from a second manufacturer or lot if the lot can be demonstrated from the manufacturer as prepared independently from other lots.

15.4.16 Criteria for the acceptance of an initial or continuing instrument calibration shall meet the requirements of the reference method, shall be referenced in the Standard Operating Procedure. (e.g., correlation coefficient or relative percent difference) and shall be appropriate for the calibration technique employed. The lowest standard corresponds to the lowest quantitation level for which quantitative data are reported.

15.4.17 Average Response Factors for 8000 series methods shall be calculated according to the method requirements and shall meet the method acceptance criteria. Calibration Factors for 8000 series methods shall be calculated according to the method requirements and shall meet the method acceptance criteria. If Linear Regression is used for 8000 series methods a minimum of 6 calibration points are used and the correlation coefficient must be equal to or greater than 0.99. If Linear Regression is used for other methods the correlation coefficient must be equal to or greater than 0.995. If Quadratic Regressions are used a minimum of 7 points are required and the correlation coefficient must be equal to or greater than 0.99.

15.4.18 Calibrations for various analytical methods are detailed below. Other calibrations are provided in methods SOPs or in SOP *Calibration and Frequency*.

Controlled Document

15.5 Laboratory Instrument Calibrations

15.5.1 Thermometers

15.5.1.1 Working thermometers shall be checked annually against an NIST traceable certified thermometer at two temperatures that bracket the working range of the thermometer and the results recorded and documented for each thermometer.

15.5.1.2 Thermometers shall be labeled when calibrated and the correction factor recorded on the label and on the calibration bench sheet.

15.5.2 Balance Calibration

15.5.2.1 Records of balance calibration shall be kept for two weight ranges using at minimum ASTM class 2 or class S reference weights (weights shall be certified at least every 2 years and are only used to verify balance calibrations). Records or equivalent showing daily or before each use, functional/calibration checks for pan balances shall be maintained. Each balance in use shall have a balance calibration check logbook for acceptance. Refer to Table below for an example of balance calibration acceptance checks.

BALANCE CALIBRATION CHECKS

ANALYTICAL BALANCE		*TOP LOADING BALANCE*	
CLASS S WEIGHT	**TOLERANCE**	**CLASS S WEIGHT**	**TOLERANCE**
0.01g	±0.0002g	0.01g	±0.02g
0.1g	±0.0002g	0.5g	±0.02g
0.5g	±0.0004g	1g	±0.04g
1g	±0.0004g	5g	±0.05g
10g	±0.0005g	10g	±0.20g
50g	±0.0010g	50g	±0.20g
		100g	±0.20g

*These are representative of the range of weights typically used.

Controlled Document

15.5.3 Metals General Guidelines

15.5.3.1 Metals are analyzed by three method protocols:

200 series - NPDES and Drinking Water
6000 series - RCRA testing
7000 series - RCRA testing

Calibrations shall be performed as per the method requirements.

15.5.4 Atomic Absorption (GFAA and FLAA)

15.5.4.1 Atomic absorption spectrophotometers are calibrated daily with the method required number of calibration standards. A calibration blank is also included. The correlation coefficient of the regression curve must be equal to or greater than 0.995. Next and initial calibration verification (ICV) is analyzed immediately following the initial calibration and must meet the criteria in the table below. After each analytical batch of 10 continuing calibration verification is analyzed. The CCV must also meet the acceptance criteria in the Table below. Blanks are analyzed following each calibration verification and must meet the criteria in the Table below.

15.5.5 Inductively Coupled Plasma-Atomic Emission (ICP)

15.5.5.1 ICP calibration is performed daily using a single point calibration standard containing the target metals followed by a calibration blank. Multi-point calibrations followed by calibration blank are analyzed at a minimum of annually to use to plot a curve for linearity. Initial calibration verification standard is analyzed following the calibration and must meet the acceptance criteria in the Table below. A Continuing Calibration Verification standard is analyzed after every 10 samples and at the end and must meet the criteria specified in the Table below. Immediately following the calibration standards, a calibration blank is analyzed. A blank and LCS are analyzed with every analytical batch.

METALS

ICP (Inductively coupled plasma-atomic emission)

CALIBRATION CHECK	*6010*	*200.7*	*200.7 (Drinking Water)*
Standardization	1 point + cal blank	1 point + cal blank	1 point + cal blank
Re-analysis of Standards	±5% of true value	±5% of true value	±5% of true value

Controlled Document

Initial Calibration Verification (ICV)	±10% of true value	±5% of true value	±5% of true value
Initial Calibration Blank (ICB)	<Reporting limit	<Reporting limit	<Reporting limit
RL Standard	Detected ±50% of the true value	Detected ±20% of the true value	Detected ±50% of the true value
Interference Check Solutions A and B	±20% of true value	±20% of true value	±20% of true value
Continuing Calibration Verification (CCF)	±10% of true value	±5% of true value	±20% of true value
Continuing Calibration Blank (CCB)	<Reporting limit	<Reporting limit	±10% of true value

All sample results must be bracketed by acceptable calibration standards

GFAA (Graphite furnace atomic absorption)

CALIBRATION CHECK	*7000-series*	*200-series*
Minimum number of calibration points*	4	4
Initial Calibration Verification (ICV)	±10% of true value	±10% of true value
Initial Calibration Blank (ICB)	<Reporting limit	<Reporting limit
Continuing Calibration Verification (CCV)	±20% of true value	±10% of true value
Continuing Calibration Blank (CCB)	<Reporting limit	<Reporting limit

All sample results must be bracketed by acceptable calibration standards.
*Contains RL standard

FLAA (Flame atomic absorption)

CALIBRATION CHECK	*7000-series*	*200-series*
Minimum number of calibration points*	4	4
Initial Calibration Verification (ICV)	±10% of true value	±10% of true value
Initial Calibration Blank (ICB)	<Reporting limit	<Reporting limit
Continuing Calibration Verification (CCV)	±20% of true value	±10% of true value
Continuing Calibration Blank (CCB)	<Reporting limit	<Reporting limit

All sample results must be bracketed by acceptable calibration standards.
*Contains RL standard

15.5.6 General Laboratory Instrumentation—ION Chromatography (IC)

15.5.6.1 Initial calibration, following instrument startup, and when the continuing calibration fails the continuing calibration acceptance criteria. A calibration curve is established by analyzing the required number of standards. Linear regression or quadratic curve fitting is used depending on the response of the analyte. The correlation coefficient must be greater than or equal to 0.995 for each compound before the calibration can be used for quantitation. Calibration verification standard is analyzed immediately following the calibration, following every 10 samples and at the end for closure.

Controlled Document

15.5.7 Ultraviolet-Visible Spectrophotometer (UV-VIS)

15.5.7.1 Spectrophotometers are initially calibrated using a 5-point calibration at a minimum of every 6 months, following startup, or when continuing calibration verification is unacceptable. A calibration curve is generated. The correlation coefficient of the initial curve must be greater than or equal to 0.995 using a regression fit. The calibration curve is verified daily by analyzing a midpoint calibration standard. The verification standard must agree within +/- 10% of the concentration of the standard.

15.5.8 pH Meters

15.5.8.1 pH meters are calibrated daily with two standard buffers at pH 7.0 and either 4.0 or 10.0, and then checked against the buffer not used. The reading must be within + or – 0.10 pH unit of its value. Calibration verification standards are analyzed immediately after calibration and following every 10 samples. Temperature compensation is taken into account. When samples fall outside of the pH range of 4.0-10.0, the meter shall be calibrated using other buffers that bracket the pH range of the samples. Newer meters allow for calibration using three buffers and should be checked with all three.

15.5.9 Bomb Calorimeter

15.5.9.1 Benzoic acid tablets are used as standard controls at a minimum of quarterly and must be within 10% of the true value.

15.5.10 Support Equipment/Environmental Controls

15.5.10.1 Equipment such as ovens, water baths, hot plates, coolers, refrigerators, incubators, autoclaves, and concentrators are checked in the expected use range as required or before each use with thermometers traceable to NIST standards. Refrigerators, coolers, water baths, incubators and concentrators are checked daily (days of use) during regular working hours and the readings recorded. When testing requires stricter monitoring or testing during non-regular work hours, the support equipment shall be checked during the non-regular work hours or as required by the test.

Controlled Document

15.5.10.2 Autoclaves are monitored for temperature, cycle time, and pressure of each run of the autoclave by the use of appropriate chemical indicators or temperature recorders and pressure gauges and documented.

15.5.10.3 The facilities and lab areas used for environmental testing, including but not limited to energy sources, lighting and environmental conditions, are controlled and monitored such as to facilitate correct performance of the environmental tests. Micro Methods Laboratory makes every effort to ensure that the environmental conditions do not invalidate the results or adversely affect the required quality of any measurement.

15.5.10.4 To the extent possible, effective separation shall exist between neighboring areas in which there are incompatible activities including culture handling or incubation areas and volatile organic chemicals handling areas.

15.5.10.5 Potential for cross contamination is controlled through appropriate measures. Volatile samples are in sealed plastic bags. Volatile samples are segregated from all other samples. The Volatiles Lab is separated from the main lab. Holding blanks are analyzed weekly to monitor contamination within the laboratory. Trip blanks are analyzed with every sample delivery group. Preservatives are prepared frequently and are expiration dated. Sample containers are purchased pre-cleaned. Shipping containers are cleaned frequently. Most Semi-Volatile, Pesticide, and Herbicide samples are placed in sealed plastic bags. Custody seals are used. Samples are returned to their storage areas when testing is completed.

15.5.10.6 Access to the testing areas is controlled. Clients are encouraged to use secondary containment when submitting samples.

15.5.10.7 Whenever sampling or environmental testing is conducted at sites other than this facility, particular care is taken to control the environmental conditions and simulate laboratory conditions to the extent possible.

15.5.10.8 The analyst/technicians shall monitor, control and record environmental conditions to the extent possible, as required by the relevant specifications, methods and procedures or where they influence the quality of the results. Conditions that may impact the results of the sampling or testing such as biological sterility, dust, electromagnetic disturbances, radiation, humidity, electrical supply, temperature, and sound and vibration levels shall be monitored appropriately.

15.5.10.9 In the event that environmental conditions jeopardize the results of sampling or testing the event shall be immediately stopped until such time as the event can be resumed or re-started. The analyst/technician has the responsibility to assure that environmental conditions are monitored and shall notify their immediate Supervisor when work has been interrupted. The event shall be documented on the corrective action form.

15.5.10.10 In instances where monitoring or control of any environmental conditions are specified in a test method or by regulation, the analyst/technician shall not

Controlled Document

commence testing until all of the conditions are met and shall document adherence to the requirements on bench sheets, in appropriate log books, or forms.

15.5.11 Conductivity Meters

15.5.11.1 Internally standardized before using. The cell constant of conductivity meters is determined annually by analyzing KCL standards (5 levels) and verified daily using a check standard. Temperature compensation is applied.

15.5.12 Total Organic Carbon Analyzer (TOC)

15.5.12.1 TOC analyzers are calibrated according to the manufacturers' instructions, which is a minimum of a single point and immediate calibration verification. After every 10 samples a check standard is analyzed. Acceptance is less than or equal to 10% of the known value.

15.5.13 Dissolved Oxygen Meter

15.5.13.1 Dissolved Oxygen meters are calibrated prior to each use using the air calibration technique.

15.5.14 Gas Chromatography and Mass Spectrometry

15.5.14.1 Micro-Methods analyze volatile and semi-volatile organic compounds by GC using the 600 series (NPDES), and 8000 series (RCRA) methods. Both internal standard and external techniques are employed. Calibrations are further detailed in the methods SOPs and SOP *Calibration and Frequency*. Initial calibration is performed upon initial start-up of the instrument and whenever the continuing calibration verification fails acceptance criteria. Calibrations are prepared as required by the methods. Calibration curves are generated and the correlation coefficient must be greater than or equal to 0.99 for 8000 series when the calibration curve is used. Calibration factors are also used when external calibrations are performed. For internal standard calibrations average response factors are calculated for each analyte. The acceptance criteria for GC methods can be found in the Tables below. If the percent RSD of the calibration curve is less than or equal to the acceptance criteria the average response factor can be used. A mid-point calibration is analyzed to verify calibration. If the percent difference is less than or equal to the acceptance criteria, then calibration is acceptable for analysis.

Controlled Document

GC/GCMS CALIBRATION CRITERIA
VOLATILES & SEMI-VOLATILES by GC

Calibration Check Initial calibration- Minimum calibration Standards	500-series 3*	600-series 3	8000-series 5
% RSD criteria	≤20%	≤10%	≤20% (With exceptions Noted below)
CCV criteria (%Difference or %drift)	±20%	±15%	±15% (With exceptions Noted below)

*An alternate single point calibration can be performed if the standard response is within 20% of the sample response.

GCMS Calibration Criteria-Volatiles

VOLATILES by GC/MS		
METHOD	**INITIAL CALIBRATION CHECK CRITERIA**	**CONTINUING CALIBRATION CHECK CRITERIA**
624	All targets <35% RSD, or alternatively, Construct calibration curve	QC Check Sample (20µL) meets limits Specified in method-Table 5, Range for Q
8260	CCC <30%RSD; if %RSD<15%, the Average RF can be used for quantitation if the %RSD >15%, a calibration curve Must be constructed and used for quantitation. The correlation coefficient or coefficient of determination for the Curve must be greater than or equal to 0.995	CCC <20% difference or drift from Initial calibration
8260	SPCC (minimum RF) Chloromethane 0.10 1,1-Dichloroethane 0.10 Bromoform >0.10 Chlorobenzene 0.30 1,1,2,2-Tetrachloroethane 0.30 (0.10 for 25 mL purge)	
524.2	All targets <20% RSD, or alternatively, Generate linear, 2nd or 3rd order calibration Curve (2)	All targets <30% difference from initial Calibration, or alternatively, using analyst Judgment, all targets must fall on the

Controlled Document

		Initial calibration curve

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION BROMOFLUOROBENZENE (BFB) FOR 524.2	
m/e	**Ion Abundance Criteria**
50	15-40% of mass 95
75	30-80% of mass 95
95	Base peak, 100% relative abundance
96	5-9% of mass 95
173	<2% of mass 95
174	>50% of mass 95
175	5-9% mass of 174
176	>95% but >101% of mass 174
177	5-9% of mass 176

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION BROMOFLUOROBENZENE (BFB) FOR 624/8260	
m/e	Ion Abundance Criteria
50	15.0 - 40.0% of mass 95
75	30.0 – 60.0% of mass 95
95	Base peak, 100% relative abundance
96	5.0 – 9.0% of mass 95
173	<2.0% of mass 174
174	>50.0% of mass 95
175	5.0 – 9.0% mass of 174
176	>95.0% but >101.0% of mass 174
177	5.0 – 9.0% of mass 176

Controlled Document

GC/GCMS Calibration Criteria-Semi-Volatiles

SEMI-VOLATILES by GC/MS		
METHOD	**INITIAL CALIBRATION CHECK CRITERIA**	**CONTINUING CALIBRATION CHECK CRITERIA**
625	All targets <35% RSD, or alternatively, Construct calibration curve	QC Check Sample (20μL) meets limits Specified in method-Table 5, Range for Q
8270	CCC <30%RSD; if %RSD<15%, the Average RF can be used for quantitation if the %RSD >15%, a calibration curve must be constructed and used for quantitation. The correlation coefficient or coefficient of determination for the Curve must be greater than or equal to 0.995 SPCC>0.050	CCC <20% difference or drift from Initial calibration SPCC>0.050
525	All targets <20% RSD, or alternatively, Generate linear, 2nd or 3rd order calibration Curve	All targets <30% difference from initial Calibration, or alternatively, using analyst Judgment, all targets must fall on the Initial calibration curve

SEMI-VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION (DFTPP) FOR 525.2	
m/e	Ion Abundance Criteria
51	10-80% of mass 442
68	Less than 2% of mass 69
69	(reference only)
70	Less than 2% of mass 69
127	10-80% of mass 198
197	Less than 2% of mass 1998
198	Greater than 50% of mass 442
199	5-9% of mass 198
275	10-60% of mass 442
365	Greater than 1% of mass 442
441	0-100% of mass 443
442	Base peak, 100% relative abundance
443	15-24% of mass 442

Controlled Document

SEMI-VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION (DFTPP) FOR 525.2	
m/e	Ion Abundance Criteria
51	30-60% of mass 198
68	<2% of mass 69
70	<2% of mass 69
127	40-60% of mass 198
197	<1% of mass 198
198	Base peak, 100% relative abundance
199	5 – 9% mass of 198
275	10-30% of mass 198
365	>1% of mass 198
441	Present but less than mass 443
442	>40% of mass 198
443	17-23% of mass 442

Controlled Document

15.6 Standard Preparation

15.6.1 Neat chemical standards of purity documented to be greater than or equal to 97% are purchased from approved suppliers. In special cases when the purity of the neat compound is less than 97% and greater purity cannot be purchased, the standard will be corrected for the actual purity.

15.6.2 When stock solutions are available from approved suppliers, these will be purchased rather than purchasing neat standards and preparing the solutions in the laboratory. Second source verification where available will be used on standards prepared in the laboratory. These standards should be less than 10% difference.

15.6.3 The preparation of stock solutions, working standards, and calibration standards must be documented in an appropriate standards logbook. These custom logs are coil bound and are located in the Metals Lab, the Wet Lab, and Organics Lab. Standards log book entries must be initialed by the analyst and given a unique reference number:

15.6.4 Record all relevant information in the standards/reagents preparation log. See Attachments

15.6.5 Assign the standard/reagent a unique reference number. For purchased calibration standards use the manufacturer's name for the standard and add the date of the preparation.

15.6.6 Daily Standards and Working Standards (e.g. Volatiles Continuing Calibration Verification standards) must have a unique reference number, must be recorded in the appropriate log book, and the reference number associated with the samples, either by recording the reference number in the run log or in the data analysis information in the analytical software.

15.6.7 Label the standard container with pre-printed labels. Complete the required information on the labels. See Attachment

15.6.8 Calibration Standards must only be weighed on the Mettler AT261 Delta Range analytical balance. Large volume reagents must be weighed on the Sauter RC 4021only in the Wet lab. .

15.6.9 All purchased reagents and solvents must be labeled (by Sample Custodian and/or Analyst) upon receipt with the following information: (See Attachment)

- 15.6.9.1 Date received:
- 15.6.9.2 Date opened:
- 15.6.9.3 Opened by:
- 15.6.9.4 Expiration Date:

15.6.10 Expiration dates for neat, dry, inorganic chemicals and standards and aqueous acids must not exceed 5 years from the date of receipt unless stability data is validated (usually not cost effective). Expiration dates for organic solvents or

Controlled Document

aqueous solutions must not exceed one year from the date of receipt or preparation. Expiration dates for some solutions or chemicals may be much shorter that the guides above. Consult the method, manufacturer's recommendations or MSDSs for expiration information.

15.6.11 Volatile standards, solutions, or reagents that are expected to degrade must be labeled with an adjusted expiration date base on the date opened.

15.6.12 If the standard or reagent container is too small to contain all of the required information (on the label) the vial can be labeled with one reference number and placed into a larger container with all of the necessary information including the reference number.

15.6.13 All reagents, standards, and solvents must be stored appropriately in the designated areas. In addition, the chemicals should(not required) be labeled with a short hand notation for storage conditions:

15.6.13.1 A = Ambient
15.6.13.2 R = Refrigerate
15.6.13.3 F = Freeze

15.6.14 Reagent purity and stability should be demonstrated by assaying the reagent before and after the study. When documentation from the manufacturer exists that the reagent was assayed this documentation must be retained.

15.7 Preparation of Standards from Neat High Purity Stock Material

15.7.1 When an analytical reference standard cannot be obtained from an approved vendor, the use of neat standards must be approved by the lab supervisor. When purchasing neat standards, obtain the highest purity possible. When standards are less than 97% pure, document in the standards book why a higher purity could not be obtained (e.g. Not Available).

15.7.2 The chemical standards shall be kept sealed and refrigerated when not being used in the preparation of standard solutions. Store according to manufacturer's recommendations to minimize standard degradation.

15.7.3 A vendor or supplier can sometimes misrepresent compound purity. When purchasing standards, analytical documentation must accompany the standard assuring the purity of the compound. Purity confirmation documentation should use at least two of the following:

15.7.3.1 GC/FID analysis,
15.7.3.2 HPLC analysis,
15.7.3.3 Infrared spectrometry
15.7.3.4 Differential Scanning Calorimeter
15.7.3.5 Other appropriate techniques

Controlled Document

15.7.4 The following correction factor for impurity when weighing neat materials in the standard preparation process is as follows:

$$\text{Weight of impure compound} = \frac{\text{Weight of pure compound}}{\text{(percent purity / 100)}}$$

Where weight of the pure compound is that required to prepare a specific volume of a standard solution at a specific concentration

15.7.5 Weights of compounds assayed to be less than 97% pure must be corrected when calculating the concentration.

15.7.6 Retain all analytical documentation assuring that all compounds used in the preparation of standard solutions are correctly identified. Misidentification of compounds occurs occasionally, either from the supplier, vendor, or during analysis. Make every effort to ensure that the standards being used are correct in quantity and quality. Identification confirmation, when performed shall be GCMS using two different columns. This information must be retained with the purity documentation.

15.7.7 Check the balance accuracy using a minimum of two weights once every 12 hours. The balance must be capable of accurate weights to the nearest 0.1 mg. Peer verification is required. Documentation of acceptability is initials of the peer. When preparing calibration standards or reagents, calculate the weight of the material for the volume of solution required, corrected for purity. All calculations are subject to peer verification, and documented as correct by initials of the peer.

15.7.8 Dilution solvents must be compatible with the procedure in which the standard will be used. The neat material must be soluble, stable, and non-reactive with the solvent. Solutions of multi-component must not react with each other. When possible, use acetone or methanol for surrogate standard and spiking solution mixes, methylene chloride and acetone for BNA calibration standards, hexane for pesticides/PCBs and ether or MTBE for Herbicide standards.

15.7.9 Weigh solid standards directly on to a folded weighing paper. Transfer the weighed material into an appropriate volumetric flask containing about 75% of the desired solvent volume. Mix well to dissolve. Sonication or warming may be required to adequately dissolve the material.

15.7.10 Dilute to the specified volume.

15.7.11 Record all weights and subsequent dilutions in the appropriate logbooks. Peer verification is required and must be documented by peer initials.

Controlled Document

15.7.12 Label each standard with the identity, the unique standard ID code, the concentration, preparation date, the solvent, the expiration date, any storage information, and preparer's initials.

15.8 Purchase of Standard Solutions

15.8.1 Most standard solutions used in the laboratory are purchased from approved vendors and meet the following criteria with documentation supplied by the vendor or supplier:

15.8.1.1 Have documentation to ensure mass spectral identification confirmation of the solution,

15.8.1.2 Have documentation ascertaining the purity of the solution

15.8.1.3 Have chromatographic and quantitative documentation checking the standard concentration according to the following:

The quality of reference standards purchased in solution shall be demonstrated statistically and analytically by a method of the supplier's choice meeting the requirements in Section 7 of Exhibit E SOM01.x of CLP SOW.

15.9 Documentation of the Verification and Preparation of Chemical Standards

15.9.1 It is the laboratory's responsibility to retain and maintain documentation as assurance that the standards, solvents, and reagents conform to the following:

15.9.1.1 All log books, calculations, chromatograms, mass spectral data, etc., produced either by the supplier, vendor or laboratory, shall be retained and maintained by the laboratory, subject to on-site review of laboratory operations by external audit sources. All data related to the standards preparation and verification must be retained and maintained for a period of 7years.

15.10 Standard Traceability

15.10.1 The analyst who prepares standards for their use has the responsibility for their accuracy and for all traceability considerations involved. Only chemical constituents of requisite and documented purity shall be used. This documentation becomes part of the traceability chain. All physical measurements including mass, volume, pressure, and temperature need to be traceable to national reference standards (A2LA, NIST, ASTM, etc) or must be proven through inter-laboratory studies) . Containers used, stability of the

Controlled Document

standards, and traceability of materials used in standards preparation must also be traceable.

15.11 Measurement Traceability

15.11.1 Traceability shall be extended to every analytical measurement. Micro-Methods assume responsibility for the accuracy of its measurements, which is supported by reliable calibrants and quality assurance practices. All aspects of work done within the laboratory must have internal trace ability. Every detail of the measurement process must be documented and easily retrievable. Data is traceable to the actual samples measured, the specific instrumentation used, and the specific operator. Instrument run logs are generated to document analysis dates and times. Calibration standards are associated with the related samples. Calculated results are traceable to the raw data. The source of all supplemental data must be identified and recorded.

15.11.2 Where traceability of measurements to SI units is not possible or not relevant, the same requirements, (for example, certified reference materials, agreed methods and/or consensus standards) shall be required.

15.11.3 Where traceability to national standards of measurement is not applicable, the laboratory shall collect and maintain records that provide satisfactory evidence of correlation of results, where possible (for example by participation in a suitable program of inter-laboratory comparisons, proficiency testing, or independent analysis).

15.11.4 All environmental tests, including equipment for subsidiary measurements (e.g. for environmental conditions) having a significant effect on the accuracy or validity of the result of the environmental test or sampling shall be calibrated prior to being put in service and on a continuing basis. This includes balances, thermometers, and control standards.

15.12 Measurement Uncertainty

15.12.1 Measurement uncertainty is defined as a variable associated with the results of measurement characterizing the dispersion of values that could reasonably be attributed on the measurement type. The definition of uncertainty focuses on the range values within which the true result value will be considering nominal variables contributing to the overall error of an analysis result of the same matrix.

15.12.2 Measurement uncertainty is documented and stored on the LIMS in the analysis/analyte section of all NELAP accredited analytical methods in accordance with 2003 NELAC Standards 5.5.4.6.1 and 5.5.4.6.2.

Controlled Document

Measurement uncertainty is required of all Micro-Methods Laboratory, Inc. subcontract laboratories.

15.12.3 Estimation of uncertainty measurement is applied to an analytical measurement except when analytical methods preclude such rigorous calculations. In certain cases, it is impossible undertake meteorologically and statistically valid estimations of uncertainty of measurement. In these cases the laboratory attempts to identify all components of uncertainty and make the best possible estimations, and ensure the form of reporting does not give an exaggerated impression of accuracy. Reasonable estimation is based on the knowledge of the performance of the analytical method and the scope of measurement on the basis of previous experience and validation data.

The degree of rigor required for uncertainty measurement depends on three factors: 1) requirements of method, 2) requirements of the client, and 3) existence of narrow limits on which decisions of conformance are assessed.

In practice the uncertainty of a result may arise from many possible sources to include: sampling, matrix effects and interferences, environmental conditions, uncertainty of weights and volumetric equipment, reference values, approximations and assumptions incorporated in the measurement method and procedure, and random variations.

In cases where a well-recognized method specifies limits to the values of major sources of uncertainty of measurement and specifies the form of presentation of calculated results, the laboratory is considered satisfied 2003 NEALC Standard 5.5.4.6.1 and 5.5.4.6.2 by following method and reporting instructions.

15.12.4 Determination of measurement uncertainty is achieved by Micro-Methods Laboratory, Inc. utilizing the calculated ranges of the Laboratory Control Spike samples, where possible. LCSs are matrix dependent and consistently represent the matrix effects of the method of choice experienced by the laboratory within a 12 month period prior to generation of reported result. Uncertainty is determined per analytical technique, where applicable, and is performed by the QAO or lab supervisor using a population of 50 most recent data points. Since the measurement of certainty is essentially constant for each method across a given matrix Micro-Methods Laboratory' s method of choice of determination of measurement of uncertainty is the 95% confidence interval.

15.12.5 As standard practice, Micro-Methods Laboratory, Inc. does not report measurement of uncertainty on the final report; however, LCS limits are reported in the final report to inform client of method performance at the 95%

Controlled Document

confidence interval for the analytical method without regard to regard to client specific matrix effects generated by sampling process or other variables. If client requires specific uncertainty measurements in the QAP, uncertain measurements will be determined for each analytical method based on a minimum of 10 matrix specific spiked sample result determinations comparable to acceptable laboratory procedure of determination of measurement of uncertainty and/or agreement with the laboratory on uncertainty measurements prior to submitting samples for analysis.

15.13 Laboratory Consumables

15.13.1 Laboratory consumables shall be protected, isolated, segregated, and monitored, to the extent possible, for in-house contamination. Sample containers used for trace analysis are purchased pre-cleaned with documentation. Some containers are purchased containing preservatives, such as VOA vials for soils and Oil and Grease Sample bottles to minimize potential for laboratory contamination. Coliform bottles are purchased with chlorine reduction chemicals required by the method.

15.13.2 Bulk standards and solvents shall be stored in the chemical room separate from the laboratory activities to provide a safe storage environment, while reducing the potential for degradation or cross contamination. Opened standards shall be stored in the chemical room in zip lock bags or metal cans to reduce potential for cross contamination.

15.13.3 Bulk standards and solvents shall always be unopened during transport through the laboratory.

15.13.4 To the extent possible, solvents and reagents shall be prepared under the hoods.

15.13.5 Glassware shall be washed and maintained appropriately for the analyses for which they are used.

15.13.6 Organic solvents shall be segregated from the volatiles lab.

15.13.7 No containers of solvents or reagents shall be left unattended or opened for any length of time longer than necessary to complete the activity.

15.13.8 All waste shall be disposed of as soon as possible. Waste containers shall be kept closed except when transfers are made.

15.13.9 Vials for sample reduction shall come from a vendor specializing in this activity.

15.13.10 Disposable Pipettes shall be used for sample transfers when measurement accuracy is not critical.

15.13.11 All glassware, burettes, and pipettes used for accurate measurement shall be Class A. Certificates for Class A syringes are located in the lab area of use (ie. volatile lab, extract lab, etc.).

Controlled Document

15.14 Receipt and Review of Analysis Request

15.14.1 For all samples received at the laboratory, the sample custodian shall check for evidence of method requirements for the analysis requested. The sampler or project manager most often initiates such evidence. If no information exists to ascertain the methods employed, the sample custodian shall notify the lab supervisor, who shall in turn notifies management. Management or their designee shall research the possible methods available based on equipment at the laboratory and laboratory capability. The client shall be contacted for method preferences, and, if none exist, the laboratory representative shall advise on the appropriate methods that would best suit the client's needs. The lab representative shall record the methods requested, the date, time, and person contacted in a bound lab notebook. If enough space exists to write in the methods on chain of custody, this can be done in lieu of the notebook entry. When a project requires a complicated analysis scheme, the laboratory representative shall ask the client to fill out an analysis request form to aid in meeting the data users' needs. The Laboratory Director, the QAO, or lab supervisor shall assist the client in this action.

15.14.2 The Laboratory Director or his designee shall review all analysis requests, evaluate, and approve in writing if acceptable.

15.15 Solvent, Reagent, and Adsorbent Check Analysis

15.15.1 Solvents used in the laboratory must be suitable for the analytical process. All solvents used in the laboratory for extractions are pesticide grade. Manufacturer's purity documentation is retained for each lot of solvents and must meet the requirements established in the analytical procedure for which the solvent will be used. Solvents are monitored by lab reagent blanks, method blanks, and/or

15.15.2 Reagents must meet the requirements for the methods for which they are used.

15.15.3 Florisil Check (required for CLP work)

15.15.3.1 Florisil cartridges must be verified as acceptable prior to being used for cleanup according to the procedure established in the most current SOW.

Controlled Document

15.16 List of Analytical Equipment in Service

Laboratory Instruments at Micro-Methods Laboratory, Inc.

# In Service	INSTRUMENT
10	Analytical Balances
2	Autoclaves
2	Biological Incubators
2	Block Digesters
2	BOD Incubators
2	Bomb Calorimeter
6	COD Distillation Setups
2	Conductivity Meters
6	Cyanide Distillation Setups
3	DO Meters
4	Drying Ovens
20	Continuous Liquid-Liquid Extractors
2	Zymark Turbovaps
20	KD flasks and concentrator tubes with Snider Ball tubes
1	Gel Permeation Cleanup Instrument (GPC)
1	HPLC PE UV and Fluorescence
1	ICP JY
1	PE 5100 AA Graphite Furnace
1	PE 3100 AA Flame
1	Ion Chromatograph Dionex IC20
1	IR Spectrophotometers
1	Mercury Cold Vapor Units
2	pH/ISE Meters
6	Phenol Distillation Setups
2	Sample Concentrators
5	TCLP (Nonvolatile) Extractor Tumblers
5	TCLP (ZHE) Tumblers
1	TOC Analyzer
6	Top Loading Balances
2	Turbidity meters
1	UV/VIS Spectrophotometers
8	Water baths
2	Agilent 6890 GC, with 5973 MSD, 7683 auto sampler for Semi Volatile Analysis

Controlled Document

1	**Agilent 6890 GC, with 5973 MSD, with OI Eclipse P&T, OI 4552 Water/Soil Auto sampler**
1	**Agilent 6890 GC, with 5973 MSD, with Tekmar Dohrmann Solatek 72 Multimatrix Vial Auto Sampler**
1	**Hewlett Packard 5890 GC with 5970 MSD and 7673-auto sampler**
1	**Agilent 6890 GC with FID/PID, with 4560 P&T and OI 4552 Water/Soil Auto sampler**
1	**Hewlett Packard 5890 with FID with 7673 auto sampler and gas sampling injector**
1	**Agilent 6890 GC with dual ECD detectors and dual 7683-auto sampler**
1	**Hewlett Packard 5890 GC with PID/ELCD, OI 4560 P&T, and DPM 16 Auto sampler**
1	**Perkin Elmer Auto system GC with ECD detector**
1	**TOC Instrument**
3	**Drying Ovens**
1	**Turbid meter**

15.17 General Housekeeping

15.17.1 The laboratory must be appropriately cleaned and maintained in order to ensure that the laboratory does not contribute to sample contamination

15.17.2 It is the responsibility of all staff to maintain an environment conducive to producing analytical results free from laboratory contaminants. It is the responsibility of the Lab Director, Lab Supervisors, Safety Officer and QAO to provide the input for determining the extent of control based on its particular circumstances such that the impact from environmental condition has no effect on the test results.

15.17.3 All work areas and testing equipment shall be cleaned to levels appropriate for the tests performed in that area.

15.17.4 Analysts/Technicians are responsible for washing dirty glassware, properly disposing of unused waste chemicals and reagents, and returning unused samples to the storage coolers.

15.17.5 Bench tops and counters shall be wiped down daily and immediately following a spill.

15.17.6 Work spaces (access and entryways to the laboratory; sample receipt areas; sample storage areas; chemical and waste storage areas; and, data handling and storage areas) are cleaned and maintained frequently to ensure unencumbered work areas.

Controlled Document

16.0 PREVENTIVE MAINTENANCE

16.1 Preventive Maintenance Program

16.1.1 This section describes the laboratory personnel responsibilities for carrying out a comprehensive preventive maintenance program for all instruments and test equipment used in the analytical and testing activities. It shall include an overview of the program implemented by Micro-Methods' Management for maintaining this equipment in optimum operating condition. This section applies to all gauges, measuring equipment, test instruments included in the laboratory calibration program, i.e., any equipment used for making analytical determinations. Each item of equipment and associated software shall be uniquely identified with a system or instrument ID#, where practical. Records shall be kept of the following, where practical and if they exist:

16.1.1.1 The identity of the item of equipment and its software; The manufacturer's name, type identification, and serial number or other unique identification; Checks that equipment complies with the specification; The current location; The manufacturer's instructions, if available, or reference to their location; Dates, results and copies of reports and certificates of all calibrations, adjustments, acceptance criteria, and the due date of next calibration; The maintenance plan, where appropriate, and maintenance carried out to date; documentation on all routine and non-routine maintenance activities and reference material verifications; Any damage, malfunction, modification or repair to the equipment; Date received and date placed in service (if available);If available, condition when received (e.g. new, used, reconditioned).

16.1.2 The laboratory shall conduct an orderly program of positive actions (equipment cleaning, lubricating, reconditioning, parts replacement, adjusting and/or testing) to prevent instruments or equipment for failure during use. The purpose of this maintenance is to increase or maintain measurement system reliability. Without such a program, instrument down time increases and sample through-put time increases.

16.1.3 Instruments shall not be misused or abused, shall always be handled safely. Field instruments shall be transported in protective cases. Instruments in storage shall be in protected from environmental

Controlled Document

hazards and shall be visually inspected periodically for deteriorated conditions.

16.1.4 All instrumentation in use shall be adequately maintained to ensure proper function and operation. Al l non-functioning instrumentation shall be removed from service, tagged as "out of service", and if repairs require sending the instrument to the manufacturer shall not be place into service following the repairs until the instrument has met calibration and method acceptance criteria. Saturated detectors or grossly contaminated instruments shall be taken out of service, until such time as they are decontaminated or repaired. Demonstrations of proper calibration, stability, meeting acceptance criteria, and reproducibility are required before an instrument can be returned to service.

16.1.5 Qualified personnel shall only operate instrumentation.

16.2 Instrument Startup for New Instruments, New Operators, or RM Changes

16.2.1 Each new instrument or equipment must have an initial demonstration of capability where required by the method or procedure or whenever there is a significant change in instrument type, personnel, or reference method. A demonstration of capability form must be maintained in the files of the operator. All documentation from the manufacturer must be maintained.

16.2.2 The equipment and the software used for testing and sampling shall be capable of achieving the accuracy required in the method and shall comply with specifications relevant to the environmental tests concerned.

16.2.3 Equipment (including that used for sampling) shall be calibrated or checked to establish that it meets the laboratory's specification requirements and complies with the relevant standard specifications prior to use. It is the responsibility of the Lab Supervisors to document this activity.

16.2.4 All raw data records shall be maintained that document or show equipment performance.

16.3 Preventive Maintenance Schedule

16.3.1 The Quality Assurance Officer and Lab Director shall prepare and implement a preventive maintenance schedule for laboratory measurement systems. The Lab Supervisors shall ensure that the

Controlled Document

schedules are followed (refer to SOP *Preventive Maintenance*). Preventive maintenance and repairs shall be documented in the maintenance logbooks as support that the instrumentation is in good working condition and that it is properly maintained, inspected, and cleaned. Instruments that have been subjected to overloading or mishandling, which gives suspect results, or has been shown to be defective shall be taken out of service until it has been repaired and verified by calibration or test to perform properly. Data that may have been affected by the instrument shall be examined for suitability.

16.3.2 Micro-Methods have in stock all consumable items necessary to operate and maintain all instrumentation. Additionally, many electronics parts are also stocked. Only qualified laboratory personnel are allowed to perform repairs of major instrumentation (Lab Director, Lab Supervisors, and QAO). Some instrumentation is under service contract.

16.4 Equipment Failure/Natural Disaster Contingency Plan

16.4.1 Micro-Methods have back-up instrumentation for all major instrumentation in use at the laboratory. In the event that there is equipment failure of both primary and secondary instrumentation, the client shall be notified and arrangements for transporting the samples to another laboratory, approved by the client, shall be discussed. In most cases repairs are completed very quickly, due to the proximity of the laboratory to the location of manufacturer's service engineers.

16.4.2 The following steps shall be taken to prepare the laboratory when a Hurricane Watch is issued:

16.4.2.1 The Supervisors and their subordinates shall evaluate the status of sample analyses currently in progress and estimate the time of completion on each lab file. Analysts may have to work overtime to complete pending analyses.

16.4.2.2 The sample custodian and Lab Supervisors or their designees shall check the sample inventory stored in refrigeration units to prepare the units for the potential weather.

16.4.2.3 The Lab Director, Lab Supervisors, or their designees shall call clients to notify of sample status and to request approval for overtime, if required to complete the analyses to meet holding times or client data delivery requirements.

Controlled Document

16.4.2.4 The Field Technicians are responsible for ensuring that all waste drums are capped, secured, and locked in the waste drum storage shed. Use tie downs if necessary.

16.4.2.5 Place all corrosive and flammable chemicals into their proper storage areas.

16.4.2.6 The Office Manager shall check all emergency phone numbers of clients and contacts. The Office Manager shall verify that home phone numbers, cellular phone numbers, and pager numbers for all laboratory personnel are current and provide each employee with those numbers. It is the responsibility of each lab employee to program contact numbers into their own phones. All laboratory employees shall be subject to calls into work as required if weather conditions deteriorate quickly.

16.4.2.7 The LIMS Administrator is responsible for ensuring that the Server has recent backup. As the weather deteriorates the Server shall be backed up just prior to shutting it down. In the event that a Hurricane Warning is issued, 2 back up tapes shall be made. One tape shall be placed in a secure, fireproof cabinet and then locked. The other tape shall be given to a trusted employee farthest from the anticipated point of landfall. Operating Software shall be treated similarly. Individual workstations shall be backed up as needed.

16.4.2.8 Bag ice from ice machine and place as many bags as possible into the freezers for possible post hurricane use.

16.4.3 The following steps shall be taken to prepare the laboratory when a Hurricane Warning (Landfall within 72hours) is issued:

16.4.3.1 Place all pending samples and extracts into transport coolers and place in the walk-in cooler for storage. Lock the walk-in cooler.

16.4.3.2 Power down all instrumentation and computers and disconnect power cables. After the instruments have cooled down, cover in 6ml poly sheeting.

16.4.3.3 Place all moveable equipment onto the counter tops in case of potential flooding (Micro Methods is south of Interstate 10, but not in a flood zone)

16.4.3.4 It is the responsibility of the Organics staff and the Inorganic staff to perform the following tasks. All high-pressure gas cylinders must be disconnected, capped and laid horizontally on the concrete slab inside of the gas bottle containment area. All gas lines must be capped and labeled to

Controlled Document

ensure that moisture does not enter the lines and that correct connection is made following the foul weather.

16.4.3.5 It is the responsibility of the field technicians to fill all vehicles with gasoline and oil, if needed. Fill all 5-gallon gas cans for generator use, in case of extended periods without power. Check available power extension cords and strips.

16.4.3.6 It is the responsibility of the analysts to collect all bench notebooks and place them into the file cabinets in their respective lab areas.

16.4.3.7 Clients with samples pending should be contacted to determine if the samples need to be shipped to another NELAC accredited laboratory, if no standing agreement has been made prior to accepting work.

16.4.4 Following the Hurricane, employees should first attempt to contact their immediate supervisor or lab director with personal damage related issues and to discuss availability to work. If the employees are unable to make contact, report to work as soon as possible and leave a written message in the Lab Director's office or the office of their immediate supervisor.

16.4.5 The first employees to return to the laboratory following a natural disaster should safely assess the damage to the laboratory and report to Management and if possible start the generators for power to incubators and sample storage areas. Mark down the estimated time that the laboratory lost power and the time the generators were started. Testing in progress during the power outage must be qualified and discussed in the narrative report.

Controlled Document

16.5 Preventive Maintenance Activities

Preventive Maintenance Activities							
Instrument	**Service Interval**						**Additional Comments**
	D	**W**	**M**	**Q**	**SA**	**A**	
AA Spectrophotometer (Flame)							
Clean nebulizer					**X**		
Clean spectrophotometric quartz windows		**X**					
Burner head cleaned: check tubing, pump and lamps	**X**						
O rings checked			**X**				
Fine Tune Wavelength: Check optics						X	
Check electronics						X	Loss of sensitivity or failing resolution Erratic response
AA Spectrophotometer (Furnace)							
Check graphite tubes	X						
Flush auto sampler tubing	**X**						
Replace graphite electrodes and shrouds				X			
Clean furnace housing and injector tip	X						
Check Electronics						X	Loss of sensitivity or failing resolution Erratic response
AA Spectrophotometer (Cold Vapor & Hydride)							
Flush tubing (automated systems)	X						
Check absorption cell for vitrification	X						
Replace or clean quartz cell							Loss of sensitivity or failing resolution
Check Electronics						X	Loss of sensitivity or failing resolution Erratic response
ICP							
Check and realign torch			X				
Clean nebulizer and spray chamber		X					Replace as necessary
Check peristaltic pump tubing and vacuum pump oil		X					Replace as necessary
Check entire optical system (windows, mirrors, etc.)						X	Loss of sensitivity or failing resolution Erratic response
Check water lines, torch compartment, and gases	X						
Check electronics (voltages, waveforms, etc.)					X		
Check wavelength calibration and adjust as needed					X		
Run interface (interelement standard)					X		
Gas Chromatographs General							
Check septa, cylinder gas pressure, & oxygen/moisture traps	X						
Bake out injector body							High background

Controlled Document

Preventive Maintenance Activities

Instrument	Service Interval						Additional Comments
	D	W	M	Q	SA	A	
Check electronics (voltages, waveforms, etc.)				X			Loss of sensitivity or failing resolution Erratic response
Check GC temperature calibrations (injector, oven, detector)				X			
Columns							
Change glass sleeve inserts, shorten ends of columns, change glass wool plugs, check for leaks or replace							Loss of sensitivity or failing resolution
Electron Capture Detector							
Wipe tests					X		
Hydrogen cleaning							Loss of sensitivity or failing resolution
Returned to factor for cleaning and refoil							Loss of sensitivity or failing resolution Erratic response
Gas Chromatograph: Flame Ionization Detector							
Clean				**X**			
Replace flame tip						**X**	
Gas Chromatograph: Photo Ionization Detector							
Clean lamp			**X**				Replace as necessary
Gas Chromatograph: Hall Electrolytic Conductivity Detector							
Replace resin, change solvent and clean conductivity detector						**X**	Loss of sensitivity or failing resolution Erratic response
Change Ni tube				**X**			
Gas Chromatograph: Nitrogen Phosphorus Detector							
Clean				X			
Mass Spectrometer							
Replace vacuum pump oil and change desiccant						X	
Check ion source and analyzer (dismantle and clean, Replace parts as needed)				X			
Check mechanicals (vacuum pumps, relays, gas pressures and flows)				X			
Check mass calibration (perfluorotributyl-amine)	X						
Purge and Trap							

Controlled Document

Preventive Maintenance Activities

Instrument	Service Interval						Additional Comments
	D	W	M	Q	SA	A	
Clean sparger		X					
Change trap						X	
Bake trap							High background
Check purge flow			X				
Check for leaks			X				
High Pressure Liquid Chromatograph							
Gas lines checked for leaks	X						
Clean mobile phase flow system with nitric acid					X		
Clean detector flow cells with nitric acid					**X**		Loss of sensitivity or failing resolution
Clean injection valve						X	
Clean solvent filters		X					
Check pump seals and check valve assemblies	X						Clean and replace as pressures and flows of mobile phase indicate
Lubricate oil felts, if present			X				
Lubricate post column reagent pumps and check valve assembly oil felts			X				
Infrared Spectrophotometer							
Clean instrument housing			X				
Change desiccant and clean cells				X			
Clean windows			X				
Auto analyzers							
Check for leaks, flush out system and cleanup spills	X						
Clean sample probe and check all tubing for wear and discoloration			X				Replace as necessary
Clean optics				X			
Oil sample motor, lubricate gears, clean flow cell					X		
Clean pump rollers, platens, and colorimeter filters			X				
Ion Chromatograph							
Check for leaks	X						
Check all lines for wear and discoloration		X					Replace as necessary
Check pump pistons						X	
TOC Analyzer							
Change injection needle			**X**				Replace as necessary
Gas Chromatograph: Hall Electrolytic Conductivity Detector							
Replace resin, change solvent and clean conductivity detector						**X**	Loss of sensitivity or failing resolution Erratic response

Controlled Document

Preventive Maintenance Activities

Instrument	Service Interval						Additional Comments
	D	W	M	Q	SA	A	
Change Ni tube				X			
Gas Chromatograph: Nitrogen Phosphorus Detector							
Clean				X			
Mass Spectrometer							
Replace vacuum pump oil and change desiccant						X	
Check ion source and analyzer (dismantle and clean, replace parts as needed)				X			
Check mechanicals (vacuum pumps, relays, gas pressures and flows)				X			
Check mass calibration w(perfluorotributylamine)	X						
Purge and Trap							
Clean sparger		X					
Change trap						X	
Bake trap							High background
Check purge flow			X				
Check for leaks			X				
High Pressure Liquid Chromatograph							
Gas lines checked for leaks	X						
Clean mobile phase flow system with nitric acid					X		
Clean detector flow cells with nitric acid					**X**		Loss of sensitivity or failing resolution
Clean injection valve						X	
Clean solvent filters		X					
Check pump seals and check valve assemblies	X						Clean and replace as pressures and flows of mobile phase indicate
Lubricate oil felts, if present			X				
Lubricate post column reagent pumps and check valve assembly oil felts			X				
Infrared Spectrophotometer							
Clean instrument housing			X				
Change desiccant and clean cells				X			
Clean windows			X				
Auto analyzers							
Check for leaks, flush out system and cleanup spills	X						
Clean sample probe and check all tubing for wear and discoloration			X				Replace as necessary

Controlled Document

Preventive Maintenance Activities

Instrument	Service Interval						Additional Comments
	D	W	M	Q	SA	A	
Clean optics				X			
Oil sample motor, lubricate gears, clean flow cell					X		
Clean pump rollers, platens & colorimeter filters			**X**				
Ion Chromatograph							
Check for leaks	X						
Check all lines for wear and discoloration		X					Replace as necessary
Check pump pistons						**X**	
TOC Analyzer							
Change injection needle			X				
Change injection port			X				
Change catalyst			X				
Inspect combustion tube					X		
Refrigerators, Incubators, and Ovens							
Clean interior						X	
Check thermometer temperature against certified Thermometer or equivalent						X	
Analytical Balances							
Clean pan and compartment	X						
Check with class S weights			X				
Manufacturer cleaning and calibration						X	
Autoclaves							
Gaskets checked		X					Replace as necessary
Timing mechanism checked					X		
Clean interior			X				Loss of sensitivity of failing resolution
Sterilization indicator tape	X						
Microscopes							
Clean optics			X				
UV/VIS Spectrophotometer							
Lamp alignment checked			X				Loss of sensitivity of failing resolution Erratic response
Windows cleaned			X				
Check and adjust photo multiplier sensitivity and Wavelength resolution						X	
Replace lamp							Erratic response
Clean sample compartment before, after each use	X						
Check electronics						X	Loss of sensitivity of failing resolution Erratic response

Controlled Document

Preventive Maintenance Activities

Instrument	Service Interval						Additional Comments
	D	W	M	Q	SA	A	
Adjust baseline for smoothness through entire wavelength range					X		
Clean cuvettes after each use	X						
TOX Analyzer (Total Organic Halogens)							
Clean titration cell, clean inlet and exit tube		X					
Clean pyrolysis tube, recoat electrodes							QC Failure
Turbidimeter							
Clean instrument housing			X				
Clean cells	X						
pH and Ion Selective Electrodes Probe							
Check probe for cracks and proper levels of filling solution; check reference junction; clean electrode	X						Replace as necessary
Check response time	X						
Meter							
Check batteries and electronics for loose connections and cracked leads	X						Replace as necessary
Conductivity Meter							
Check batteries and probe cables	X						
Replatinize Probe							QC Failure
Dissolved Oxygen Meters Probe							
Check membrane for deterioration; check filling solution	X						Replace as necessary
Meter							
Battery level electronics checked	X						Replace as necessary
Thermometers							
Check for cracks and gaps in the mercury	X						Replace as necessary
Temperature Probe							
Check connections and cables	X						
Check against calibrated thermometer	X						
Auto samplers							
Check needles and tubing	X						Replace as necessary
Clean				X			

Controlled Document

Preventive Maintenance Activities							
Instrument	**Service Interval**						**Additional Comments**
	D	**W**	**M**	**Q**	**SA**	**A**	
Data Systems							
Clean computers, check battery backup, and check Ventilation fans				X			
Automatic Sample Collection Systems							
Check sampler operation (forward, reverse, automatic through three cycles of the purge-pump-purge cycle	X						Prior to sampling event
Check purge-pump-purge cycle when sampler is installed	X						In situ (under field conditions)
Check the flow pacer that activates the sampler to assure proper operation	X						Prior to sampling event
Check desiccant	X						Replace as necessary Prior to sampling event
Check batteries	X						Replace as necessary Prior to sampling event
Check pumping rate against manufacturer's specifications	X						Replace as necessary Prior to sampling event

16.6 Instrument Maintenance Log Books

16.6.1 All major instrumentation has an associated logbook for maintenance and repair documentation. All maintenance and repair information is documented in these logs. The logbooks are maintained within the local laboratory area near the instrument through out its useful life.

16.6.2 All major service and repairs shall be documented in the logbooks. Service or repair records performed by outside technicians must be stapled to the logbook on the date that the repairs or service occurred.

16.6.3 When the logbook pages have been completely filled or the instrument is permanently removed from service the logbook shall be maintained by the QAO as permanent record on site for a period of one year, and then transferred to the offsite records storage area for a minimum of 7 years.

Controlled Document

17.0 QUALITY CONTROL CHECKS AND ROUTINES TO ASSESS PRECISION AND ACCURACY AND METHOD DETECTION LIMIT CALCULATIONS

17.1Field Quality Control Sampling Requirements

17.1.1 All equipment blanks are collected and analyzed for the same parameters as the associated samples. All blanks are preserved, transported, documented, and handled as if they were samples. Once collected they remain with the sample set until receipt by the laboratory. Rinsing the sample equipment with analyte-free water and collecting the rinsate in appropriate sample containers prepare all equipment blanks.

17.1.2 The following type of blanks and duplicates are collected in the field as required:

17.2Pre-cleaned Equipment Blank

17.2.1 These blanks are collected from sampling equipment that has been brought to the site pre-cleaned and ready for use. A minimum of one equipment blank is collected for each water and/or soil matrix sample group. These blanks are always collected at the initiation of the sampling episode.

17.3Field Cleaned Equipment Blank

17.3.1 These blanks are collected from sampling equipment after the equipment has been in the field and between sampling points.

17.4Trip Blank

17.4.1 These blanks are required only if samples are to be analyzed for VOCs. However, Trip Blanks for semi-volatile are routinely sent out. The sample custodian, who fills the vials and bottles with analyte-free water, prepares these blanks. The blanks are placed in the same transport containers as the associated samples (VOC vials with volatile samples, Liter bottles with semi-volatile samples). The blanks remain with the samples during the sampling period and are transported to the laboratory in the same shipping

Controlled Document

containers as the samples. The trip blanks are not opened at any time during the sampling episode. Trip blanks are submitted for each cooler that transports empty or full sample containers. Inorganic trip blanks are routinely prepared and used in the same manner, as required.

17.5Field Duplicates

17.5.1 Field duplicates are collected and analyzed for the same parameters as the associated samples. They are preserved, transported and documented in the same manner as the samples. These samples are not substituted for laboratory duplicates. These duplicates are collected and analyzed to measure variability inherent in the sampling process. Duplicates are obtained by "duplicating" the entire sample acquisition technique that was used to obtain the first sample. Collect sample duplicates for water from successively collected volumes (i.e., samples from the next bailer of water). Duplicates for soils are collected from the same sample source and device.

17.6Split Samples

17.6.1 When specific projects or the clients require split samples as a means of determining compliance or as additional quality control, these samples shall be collected and processed as required. These samples are intended to measure variability between laboratories and are collected as sub samples of the same parent sample. Note that a true split sample of soil, sediment, or sludge is nearly impossible to collect under field conditions. Split samples are collected, preserved, transported and documented using the same protocols as the related samples. Split samples for water are collected in one of two ways:

1) Mix the sample in a large, appropriately pre-cleaned, intermediate vessel and pour aliquots of the mixed sample into sample containers. (This method is not used if sampling for VOCs.)

2) Fill the sample containers from consecutive sample volumes from the same sampling device. When the sampling device does not hold enough samples to fill the sample containers, the following protocol is used:

Controlled Document

a. Fill the first containers with half of the sample and pour the remaining sample into the second container.

b. Obtain additional sample, and pour the first half into the second container. The remaining portion is poured into the first container.

c. Continue with steps (a) and (b) until both containers are filled.

17.6.2 Field QC shall be according to the following table unless excluded by the client or regulating agency:

Field Control Sampling Frequency

Number of Samples	Pre-cleaned Equipment BLK	Field Cleaned Equipment BLK	Trip BLK (VOCs)	Field Duplicate
10+	Minimum of one then 5%	Minimum of one then 5%	One per cooler	Minimum one then 5%
5-9	One*	One*	NR	One
<5	One*	One*	NR	NR

NR = Not Required
BLK = Blank

17.7Quality Control on Field Measurements

17.7.1 All field instruments are initially calibrated at the beginning of each working day. Continuing calibration checks are analyzed at intervals of no more than 4 hours and at the end of the sampling period (for closure) to determine if the instrument has maintained calibration. Field instruments shall be recalibrated if the continuing calibration checks fail to meet acceptance criteria. All samples associated to the failed calibration shall be re-analyzed. All quality control data is recorded in the daily field notes in bound notebooks.

Controlled Document

17.8Laboratory Quality Control Checks—General/ Analytical Batch Definition

17.8.1 Micro-Methods Quality Plan requires that the quality control requirements stated in the methods must be followed. If no quality control requirements are listed in the method, or if the quality control requirements are less stringent than those listed below, Micro Methods shall follow the guidelines listed in this section.

17.8.2 Matrix spikes are used as laboratory controls when required by the method. Method control criteria and Lab Control Standards and blanks are used as the basis of data acceptance/rejection criteria for analytical batches.

17.8.3 Clients are requested in advance to notify Micro-Methods if there are QC requirements needed to satisfy their data requirements. Additional sample amounts may be required to perform the QC requirements. Samples for QC analyses shall be taken from the same container where possible.

17.8.4 Samples shall be processed as analytical batches. An analytical batch is defined as 20 (10 if required by the method, client, or regulating agency) or less environmental samples of a similar matrix with the same method, personnel, and lots of reagents. If the number of samples in a batch is greater than 20, each group of 20 samples or less is processed as a batch. Samples processed as analytical batches are assigned a "QC Batch Number," which associates the samples with the appropriate QC items.

17.9 Laboratory Quality Control Indicators

17.9.1 Method Blank

17.9.1.1 A Method Blank is processed and analyzed with each analytical batch of samples at a minimum of one per 12-hour shift. The method blank is used to assess the analytical batch for possible contamination during the preparation and processing steps. The method blank shall be processed alongside and under the same conditions as the associated samples and includes all steps of the analytical procedure. Any affected samples associated with a contaminated method blank shall be reprocessed for analysis or the results reported with appropriate

Controlled Document

qualifiers. The method blank shall be of a matrix type that is similar to the associated samples and is known to be free of the analytes of interest. While the goal is to have no detectable contaminants, each method blank shall be evaluated by the analyst as to the nature of the interference and the effect on the analysis of each sample within the batch. Any contamination greater than the reporting limit detected in the blanks by the analyst shall immediately be reported to the Lab Supervisor or QAO and corrective action initiated. The source of the contamination shall be investigated and measures taken to minimize or eliminate the problem and affected samples shall be reprocessed or the data shall be qualified if:

17.9.1.1.1 The concentration of a target analyte detected in the blank is at or above the reporting limit as established by the test method or by regulation, and is greater than 1/10 of the amount measured in any sample in the batch.

17.9.1.1.2 The blank contamination otherwise affects the sample results as per the test method requirements or the individual project data quality objectives.

17.9.1.1.3 In the event a blank is determined to be contaminated, the cause shall be investigated and measures taken to minimize or eliminate the problem. Samples associated with a contaminated blank shall be evaluated as to the most appropriate corrective action for the batch (reprocessing or data qualifying). The corrective action shall be documented.

17.9.2 Surrogate Spikes

17.9.2.1 Surrogates are used most often in organic chromatography test methods and are chosen to reflect the chemistries of the targeted compounds of the method. They are often specified by the mandated test method and are deliberately chosen for their being unlikely to occur as an environmental contaminant, such as deuterated analogs of select compounds. They are added prior to sample preparation/ extraction and provide a measure of the recovery for every sample matrix. Surrogates are added to all samples, blanks, matrix spikes, calibration standards, and lab control standards, where required by the method and available.

17.9.2.2 The results are compared to the acceptance criteria as published in the mandated test method. Where there are no established criteria, the QAO shall determine acceptance criteria from lab-generated data. Surrogate recovery outside the acceptance criteria must be evaluated

Controlled Document

for the effect indicated for the individual sample results. The appropriate corrective action may be guided by the data quality objectives or other site specific requirements. Results reported from analyses with surrogate recoveries outside the acceptance criteria shall be qualified.

17.9.3 Matrix Spikes (MS)

17.9.3.1 Data Quality Indicators for specific samples using a designated reference method to determine the effect of the sample matrix on the target analytes shall be documented and monitored. Examples of matrix specific QC include the following:

17.9.3.1.1 Matrix Spikes (MS)
17.9.3.1.2 Matrix Spike Duplicates (MSD)
17.9.3.1.3 Sample Duplicate Analyses
17.9.3.1.4 Surrogate Spikes

17.9.3.2 Matrix Spikes are matrix specific QC samples that indicate the effect of the sample matrix on the precision (RPD) and accuracy (% Recovery) of the results generated using the selected method. The information from these indicators is sample/matrix specific and would not normally be used to determine the validity of the entire batch. Matrix Spikes shall be processed, when sufficient sample amount exists to perform the analysis, at a frequency of 5% of samples per analytical batch. Accuracy (% Recovery) shall be assessed from matrix spike measurements.

17.9.3.3 The spiking components shall be as required or specified by the selected reference method. Any permit specified analytes, as specified by regulation or requested by the client shall also be included. If there are no specified components, spiking shall be as follows:

17.9.3.4 For components that interfere with an accurate assessment, such as spiking simultaneously with technical chlordane, Toxaphene and PCBs, the spike should be chosen that represents the chemistries and elution patterns of the components to be reported.

17.9.3.5 Whenever possible, spike with all target compounds. For test methods that have long lists of analytes, a representative number may be chosen. The analytes selected should be representative of all analytes reported. The following criteria shall be used for determining the minimum number of analytes spiked. All targeted components must be included in the spike mixture over a 2-year period.

17.9.3.5.1 For methods that include 1-10 targets, spike all components.

Controlled Document

17.9.3.5.2 For methods that include 11-20 targets, spike at least 10 or 80% whichever is greater.

17.9.3.5.3 For methods with more than 20 targets, spike at least 16 components or 80% whichever is greater.

17.9.3.6 The results from matrix spike/matrix spike duplicate analyses are primarily designed to assess the precision and accuracy of analytical results in a given matrix and are expressed as Relative Percent Difference (Precision) and % Recovery (accuracy) allowing for comparison to established acceptance criteria. The results are compared to the acceptance criteria a published in the reference method. Where there are no established criteria, the QAO shall determine Upper and Lower acceptance criteria from lab generated data using the 95% and 99% Confidence Levels.

17.9.4 Matrix spike duplicates (MSD)

17.9.4.1 Matrix Spike Duplicates shall be processed, when sufficient sample amount exists to perform the analysis, at a minimum frequency of 5% of samples per analytical batch. Precision shall be assessed from matrix spike duplicate measurements.

17.9.5 Sample Duplicate Analysis (Matrix Duplicate Analysis)

17.9.5.1 Matrix duplicates are defined as replicate aliquots of the same sample taken through the entire analytical procedure. The results from this analysis indicate the precision (RPD) of the results for the specific sample using the selected reference method. The matrix duplicate provides a usable measure of precision only when target analytes are found in the sample chosen for duplication.

17.9.5.2 Duplicate samples shall be processed, when sufficient sample amount exists to perform the analysis, at a minimum frequency of 5% of samples per analytical batch. When high concentrations of organics are known to be present, a sample duplicate may be substituted for a matrix spike. Precision shall be assessed on duplicate samples. Samples chosen for duplicate analyses should be random and rotated among clients. Samples with obvious contamination should have first consideration for duplication.

17.9.5.3 The results from matrix duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference. Results are compared to the acceptance

Controlled Document

criteria as published in the selected reference method. When there are no established criteria, the QAO shall generate RPD acceptance criteria from lab generated data using 95% and 99% Confidence Levels.

17.9.6 Lab Control Sample (LCS)

17.9.6.1 Lab Control Sample shall be processed with every analytical batch as required by the method or regulating agency. The LCS is used to evaluate the performance of the analytical system, including all preparation criteria and analysis steps. Results of the LCS shall be compared to established criteria and, if found to be outside of the acceptance criteria, indicates that the analytical system is "out of control". Any affected samples associated with an out of control LCS shall be reprocessed for re-analysis or the results qualified. The LCS shall be analyzed at a minimum of 1 per analytical batch. Exceptions would be for those analytes for which no spiking solutions are available such as TDS, TVS, TS, pH, color, odor, temperature, DO or turbidity. The LCS is a quality system matrix, known to be free of target analytes, spiked with known and verified concentrations of analytes. The Matrix Spike may be used in place of this control as long as the acceptance criteria are as stringent as for the LCS. Alternatively the LCS may consist of a media containing known and verified concentrations of analytes or as Certified Reference Material (CRM). All analyte concentrations shall be within the calibration range of the instrument and range of the methods. The spiking analytes shall be as specified by the mandated test method or other regulatory requirement or as requested by the client (written authorization required). In the absence of specified spiking components the laboratory shall spike per the following:

17.9.6.2 For components that interfere with an accurate assessment, such as spiking simultaneously with technical chlordane, Toxaphene and PCBs, the spike should be chosen that represents the chemistries and elution patterns of the components to be reported.

17.9.6.3 Whenever possible, spike with all target compounds. For test methods that have long lists of analytes, a representative number may be chosen. The analytes selected should be representative of all analytes reported. The following criteria shall be used for determining the minimum number of analytes spiked. All targeted components must be included in the spike mixture over a 2-year period.

Controlled Document

17.9.6.3.1 For methods that include 1-10 targets, spike all components.

17.9.6.3.2 For methods that include 11-20 targets, spike at least 10 or 80% whichever is greater.

17.9.6.3.3 For methods with more than 20 targets, spike at least 16 components or 80% whichever is greater.

17.9.6.4 The results of the individual batch LCS are calculated in percent recovery allowing comparison to established criteria. The individual LCS is compared to the acceptance criteria published in the reference method. Where there are no established criteria, the QAO shall determine Upper and Lower acceptance criteria from lab generated data using the 95% and 99% Confidence Levels. Client specified criteria shall be agreed upon prior to accepting work. An LCS that is determined to be with the acceptance criteria effectively establishes that the analytical system is in control and validates system performance for the samples in the associated batch. Samples analyzed along with an LCS determined to be "out of control" shall be considered suspect and the samples should be reprocessed and re-analyzed or the data reported with appropriate qualifiers. The Lab supervisor shall contact the client if the impact on the data is significant, explain the anomaly and request additional sample if re-analysis is required.

17.9.6.5 If a large number of analytes are spiked in the LCS, it becomes statistically likely that a few will be outside control limits. At the 95% confidence level with the analytical system in control, 1 result out of 20 may be outside acceptance criteria. Having a small number of analytes that have recoveries outside the control limits does not necessarily indicate that the system is out of control and may not require corrective action. Upper and lower Marginal Exceedance (ME) limits shall be established to determine when corrective action is necessary. A ME is defined as being beyond the LCS control limits (3 standard deviations from the mean), but within the ME limits. ME limits shall be established at between 3 and 4 standard deviations around the mean recovery. The number of allowable marginal exceedance limits is based on the number of analytes in the LCS. If more analytes exceed the LCS control limits than is allowed, or if one analyte exceeds the ME limits, the LCS fails and corrective action is necessary. This ME approach is most relevant for methods with long lists of target compounds. It does not apply to lists with 10 or less analytes.

17.9.6.5.1 <11 analytes in LCS, 0 analytes are allowed in ME of the LCS Control Limit

17.9.6.5.2 11-30 analytes in LCS, 1 analyte allowed in ME of the LCS Control Limit

Controlled Document

17.9.6.5.3 31-50 analytes in LCS, 2 analytes allowed in ME of the LCS Control Limit

17.9.6.5.4 51-70 analytes in LCS, 3 analytes allowed in ME of the LCS Control Limit

17.9.6.5.5 71-90 analytes in LCS, 4 analytes allowed in ME of the LCS Control Limit

17.9.6.5.6 >90 analytes in LCS, 5 analytes allowed in the ME of the LCS Control Limit

17.9.6.6 Marginal exceedances must be random. If the same analyte exceeds the LCS control limits repeatedly, it is an indication of a systemic problem. The source of the error must be located and corrective action shall be initiated. The QAO shall monitor the exceedances using statistical software. Marginal Exceedances should not be more than 2% of the total number of times that the target compound is analyzed without corrective action initiated.

17.9.7 Lab Control Sample Duplicates (LCSD)

17.9.7.1 Lab Control Sample Duplicates shall be processed when not enough samples exist to perform matrix spike duplicate analyses to monitor precision or as required by the client or regulatory agency.

17.9.8 Quality Control Check Standard

17.9.8.1 QCS (blind sample) shall be processed at a minimum of semi-annually. These samples shall be submitted as blind samples. Results of the analysis shall not be provided to the analyst until after the analysis. When results are not acceptable, the results are investigated, corrective action initiated and reported in a QA report.

17.9.9 Solvent and Reagent Purity Checks

17.9.9.1 Solvent or Reagent or Method Blanks shall be processed where required with appropriate documentation. For most solvents purity documentation is associated with the solvent lot number.

Controlled Document

17.9.10Adsorbent Checks

17.9.10.1 Absorbent checks are for clean up cartridges are processed as required by the analytical procedure. All documentation is retained.

17.10 Spiking Procedures

17.10.1Samples and or Lab Controls shall be spiked with the target compounds for the analysis requested. When extended lists of target compounds are requested or are part of specific project, these shall be spiked also unless the mixture would contain incompatible compounds. For extended lists with incompatible compounds, the matrix spikes and or Lab Controls shall be spiked with at least 80 % of the required target compounds.

17.10.2Spiking shall be done according to the method requirements. In the absence of listed spiking components, spiking is done according to the following for matrix spikes and lab controls:

1) For components that interfere with accurate assessment such as spiking individual pesticides with multi-component compounds (PCB, Chlordane, and Toxaphene) the spike chosen should represent the compounds being reported.

17.10.3When long lists of compounds are required, a shorter list may be used provided the spiking compounds are representative of the entire method. All compounds in the list must be spiked within a period of two years. The shorter spiking lists are determined as follows:

1) For methods that include 1-10 compounds, spike all of the compounds.
2) For methods that include 11-20 compounds, spike at least 10 compounds or 80% whichever is greater.
3) For methods that include greater than 20 compounds, spike at least 16 compounds or 80% whichever is greater.

17.10.4Matrix Spiked Samples and or Lab Controls shall be rotated among clients such that no one sample receives all the quality control. New or unknown samples should be chosen as quality samples when enough sample exists to perform the QC requirements. When Clients request Quality checks on their samples it is the responsibility of the analysts to meet these needs.

Controlled Document

17.11 Sample Re-extraction/Re-analysis

17.6.1 For matrix spikes or LCSs, re-extraction and/or re-analysis shall not be performed if (all data exceeding acceptance control limits shall be appropriately qualified):

1) All control criteria are met.

2) The spike recovery is above the upper control limit and the compound is not detected in the sample.

3) The recoveries of no more than 1 target compound are outside control limits when 5 to 10 compounds are spiked.

4) The recoveries of no more than 2 target compounds are outside control limits when 11 to 20 compounds are spiked.

5) The recoveries of no more than 3 target compounds are outside control limits when 21 to 30 compounds are spiked.

6) The recoveries of no more than 5 target compounds are outside control limits when 31 to 40 compounds are spiked.

7) The recoveries of no more than 7 target compounds are outside control limits when 41 to 50 compounds are spiked.

8) The recoveries of no more than 9 target compounds are outside control limits when 51 to 60 compounds are spiked.

9) The recoveries of no more than 12 target compounds are outside control limits when 61 or more compounds are spiked.

Note - The following compounds shall not be evaluated for corrective action because of their instability under routine preparation and analytical procedures (data shall be qualified for QC failures on these compounds):

a. Volatile Organics:

Acrolein
2-Choroethyl vinyl ether

Controlled Document

Pentachloroethane
Benzyl chloride
Carbon disulfide

b. Semi-Volatile Organics:

Benzidine
Benzoic Acid
Hexachlorocyclopentadiene

Note ---All QC failures must be discussed in the narrative report and the data qualified with appropriate qualifiers.

17.12 Inorganic and Wet Chemistry QC Checks

17.12.1**Method Blank** is processed and analyzed with each analytical batch of samples.

17.12.2**Calibration Blank** is processed and analyzed with each analytical batch of samples. A calibration blank is defined as an undigested blank to be used for background checks. These blanks are processed at frequency of 5%.

17.12.3**Lab Control Standard** (blank spike) is processed and analyzed with each analytical batch of samples (5%) as required by the method or regulating agency.

17.12.4**Matrix Spike** shall be processed and analyzed with each analytical batch (5%) to assess accuracy.

17.12.5**Matrix Spike Duplicate** shall be processed and analyzed at a minimum frequency of 5% (1 for every 20 samples) to assess precision.

17.13 Microbiology

17.8.1 Blanks as required by the Reference Method

17.13.1**Membrane Filter Analysis**: For each analytical batch of samples, a control blank (dilution water) is processed and run at the beginning, every 10^{th} sample (as a carry-over blank), and at the end of the process.

17.13.2**MPN Analysis**: A single tube of LTB broth media is inoculated with 10 milliliters of sterile phosphate buffered water (dilution blank control) and processed.

Controlled Document

17.13.3**MPN Analysis**: A single tube of LTB broth media is inoculated with 10 milliliters of sterile phosphate buffered water (dilution blank control) and processed.

17.13.4**Duplicates**: A minimum of 5% of the known positive samples that have been processed are analyzed in duplicate or a minimum of one duplicate analysis per month for MF and MPN analysis.

17.13.5**Positive/Negative Controls**: Microorganisms from ATTCC or equivalent sources are used to confirm the morphological and biochemical responses to the test media. Positive and negative controls are processed and run with each new media lot and monthly thereafter. Positive controls are processed with each analytical batch of Coliform samples. All drinking water samples testing positive for Coliform shall be confirmed. Ten percent of other source waters testing positive for Coliform shall be confirmed.

17.13.6**Water Quality Indicators**: Strict requirements for laboratory reagent grade water used in the lab are monitored and must be met before it is used in any microbiological testing. The table below lists parameters monitored and the frequency (requirements from *Manual for the Certification of Laboratories Analyzing Drinking Water* Chapter V, section 4.3).

Lab Water Monitoring Requirements

Parameter	Frequency	Acceptance Limits
Total Residual Chlorine	**Monthly**	**< 1.0 mg/L**
Trace Metals (Total Cd, Cr, Cu, Ni, Pb, Zn)	**Annually**	**< 1.0 mg/L**
Individual Metals	**Annually**	**0.05 mg/L (Not to exceed per contaminate)**
Conductivity	**Daily**	**< 2.0 umho cm @ 25C**
Heterotrophic plate count	**Monthly**	**< 500 CFU/mL**
Glassware Inhibitory Residue	**Annually or each lot of new detergent**	**< 15% difference between groups**
Suitability	**Annually**	**Ratio of growth 0.8: 3.0**

17.14 Assessing Precision and Accuracy and Setting Acceptance Limits

17.14.1 For SW-846 methods, matrices and QA targets are generated from matrix spikes and matrix spike duplicates of environmental samples or are taken from method specified limits. Sample results are entered into a statistical

Controlled Document

data base in the LIMS, which calculates the Upper and Lower Control Limits and plots control charts for each parameter at +/or –3 standard deviations. A minimum of 20-30 data points is used and control limits are updated annually. Control limit calculations are based on the procedures contained in The Handbook for Analytical Quality Control in Water and Waste Water 1979 and EPA SW-846 requirements. Acceptance Limits for 8000 are generated from Lab Data by the QAO and entered into the LIMS. Ongoing Precision and Accuracy charts are maintained by the QAO and reviewed annually and updated when trends indicate that limits can be expanded.

17.14.2Spiking concentrations for establishing and maintaining control limits are in terms of low, mid, or high levels as described by the following:

1) Low Level is defined as concentrations from the MDL to a level 5 times the MDL.
2) Mid Level is defined as the mean level between the MDL and the upper end of the linear range.
3) High Level is defined as concentrations at the upper end of the calibration range.

17.15 Method Detection Limits, PQLs/EQLs, and Reporting Limits

17.15.1Refer to ***SOP for MDL Studies DCN 3027.***

17.15.2**Method Detection Limits** are determined annually or whenever there is a significant change in the test method or instrument type or performance, in accordance with:

EPA – "Definition and Procedure for the Determination of the Method Detection Limit – Revision 1.11," 40 CFR Part 136, Appendix B;

17.15.3EPA's procedure is the most frequently used procedure requires that a minimum of seven spiked replicates be analyzed (40 CFR Part 136) or a minimum of 3spiked replicates (SW-846 Chapter 1) of lab reagent water or can be performed in the sample matrix, if required. The spiked matrices are subjected to the same processing steps required by the analytical procedure. Spiking levels are 3-5 times the estimated detection limit. The standard deviation of the replicate measurements is calculated. Then the MDL is

Controlled Document

computed by multiplying the standard deviation by the t – statistic (based on n-1 degrees of freedom) below.

No. of samples	t-statistic
3	6.96
4	4.54
5	3.75
6	3.36
7	3.14
8	3.00
9	2.90
10	2.82

Micro-Methods typically used 7-10 replicates to calculate MDLs.

17.16 Disclaimer

17.16.1 The MDL calculated using the above procedures is defined as the minimum concentration of a substance that can reliably be measured in reagent water and reported with a given confidence level that the analyte concentration is greater than zero. Micro Methods makes no claim that the MDLs determined using these procedures are achievable in environmental samples. Further, Micro Methods assumes no responsibility or liability for decisions made based on these MDLs in environmental samples.

17.16.2 Practical Quantitation Limits, Estimated Quantitation Limits, or Reporting Limits are typically reported in place of MDLs because MDLs are derived from analysis of spiked lab reagent water and may not be applicable in reporting environmental data. PQLs, EQLs, and Reporting Limits are defined as the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. Reporting Limits are established at 3-5 times the MDL.

17.17 Required MDL Documentation

17.17.1 Records that document sample/standard preparation, source and concentration (this includes protocols for preparation and certification, if applicable) are maintained. All required records specified in the Calibration SOP are maintained (refer to SOP *Calibration and Frequency*).

Controlled Document

Identification of analytical batch associated with QC samples (QC Batch Number). Calculations performed to determine QC results. Control limits used to evaluate analysis results and how these were determined.

17.18 MDL Study Documentation Requirements

17.18.1 Documentation for the MDL studies is conducted according to all other SOPs regarding sample and standard handling procedures, calibrations, QC checks and analyses. The documentation shall be permanent records.

17.18.2 Documentation includes:

1) Date of studies and calendar period for which the studies are applicable.

2) Analytical Methods used.

3) Identification of analyst responsible for analysis.

4) Compounds Studied

5) Instrument identification.

17.19 Selectivity

17.19.1 Selectivity is defined as the capability of a test method or instrument to respond to a target substance or constituent in the presence of non-target substances.

17.19.2 Lab Supervisors, where required, shall choose the most appropriate method or procedure to meet the client's data needs when the client is uncertain about methodology and needs direction from the laboratory.

17.19.3 The Organics Laboratory (GC/MS Lab) shall evaluate selectivity by following the quality checks and indicators established within the test method. This may include mass spectral tuning of GCMS instruments to meet method acceptance criteria or laboratory acceptance criteria in the absence of method criteria, second column confirmation or GCMS confirmation for pesticides and PCBs when required. Chromatography retention time windows shall be established as required by the reference method.

Controlled Document

17.19.4A Confirmation analysis (e.g. Duplicate analysis, second column confirmation, by another instrument type, or by GC/MS) shall be performed to verify the compound identification when positive results are detected on a sample from a location that has not been previously tested by the laboratory. Such confirmations shall be performed on GC and HPLC analyses for confirmation of pesticides, herbicides, base neutral/acid extractable or when recommended by the analytical method. Confirmation of GCMS results is not required, but should be performed whenever the laboratory has not previously analyzed the sample or whenever there is a significant difference in results when compared to previous results. For example, if the history for a sample has always been less than the reporting limit for Naphthalene and the current results show 100ug/l for Naphthalene, the analyst shall request a re-extract/re-analysis for confirmation. In the event that the re-extract result is less than, then the analyst with concurrence of the lab supervisor shall report both sets of data with the initial set qualified and discussed in the narrative as being suspect and suggest re-sampling and/or close observation of this sample point. If the re-extract result is similar to the initial result in question (100ug/l) the analyst with concurrence from the lab supervisor shall discuss the confirmation in the narrative.

17.19.5GC/MS analysis is the preferred detector for confirmation, but has limitations due to sensitivity. In some cases the analyst may be able to concentrate the extract enough to detect the levels of more sensitive GC instruments. Significant improvements in GCMS technology in detector sensitivity make confirmations on GCs more reliable. Confirmation is required unless stipulated in writing by the client. The analyst shall document all confirmations with concurrence of the lab supervisor in the narrative report.

17.19.6Selectivity for Metals determination shall employ ICP inter-element interference checks, sample blanks. GFAA can be used for confirmation for ICP and vice versa when required.

17.19.7Selectivity for Biological testing shall ensure identity and traceability. Reference cultures used for positive and negative controls shall be obtained from Remel or a recognized national collection, organization, or manufacturer recognized by the NELAP Accrediting Authority (LELAP). Microorganisms may be single use preparations or cultures maintained by documented procedures that demonstrate the continued and viability of the organism.

17.19.7.1 Reference cultures may be revived (if freeze-dried) or transferred from slants and sub cultured only once to provide reference stocks. The reference stocks shall be preserved by a technique that

Controlled Document

maintains the characteristics of the strains. Reference stocks shall be used to prepare working stocks for routine work. If reference stocks have been thawed, they must not be re-frozen and re-used.

17.19.7.2 Working stocks shall not be sequentially cultured more than 5 times and shall not be cultured to replace reference stocks.

18.0 DATA COLLECTION, REDUCTION, VALIDATION, AND REPORTING

18.1 Data Collection

18.1.1 Providing data of the highest quality is our goal at Micro-Methods. To accomplish this, a comprehensive program of data review is mandatory. Micro-Methods Management has implemented and extensive data reduction, review and validation program to support the analytical services provided. Data review, validation, and reporting are integral parts of all phases of analytical work, from sampling to document storage. Management endeavors to review all data in a consistent manner. Data reduction includes all activities that convert instrument/computer responses to reportable results. Data validation involves checking all field and laboratory data entries and calculations for errors and mistakes.

18.1.2 Data collection activities begin with the sample collection and custody records. Following receipt of the samples, the sample custodian checks the custody forms against the sample identification information, verifying and documenting correctness and anomalies observed in a bound laboratory notebook (refer to SOP *Sample Custody and Documentation*). A unique sample ID number is assigned to each sample. All anomalies detected that compromise the integrity of the sample are documented and the client is notified immediately. Following login the samples are distributed to the appropriate laboratory sections along with computer generated worksheets, anomaly reports, transit literature, and any pertinent documentation. Lab supervisors or the lab director reviews the analysis request and assigns the samples to the appropriate areas to be prepared and analyzed. Samples are tracked in each lab area to maintain continuous custody. Sample preparation is documented in bound notebooks, on worksheets and bench sheets.

18.1.3 Most of the analytical results are read directly from the analytical instruments without further reduction. Dilution factors and sample

Controlled Document

volumes or weights are added into the instrument computer where the results are calculated, thus minimizing calculation errors and data reduction errors. For analyses where calculation programs are not part of the software package, manual calculations are performed based on instrument output, readings, or responses.

18.1.4 The initial data collection is the responsibility of the analyst or field technician who operates the analytical instrument. The technician is responsible for the following:

1) Calculate spike recoveries and precision for duplicates or enter results into the LIMS for calculation.

2) Identify quality control data (blanks, spikes, duplicates, etc.) for review by the QAO.

3) Assure accurate transcription of sample identification numbers and results on all records.

4) Record all observations at the time they are made

18.2 Manual Data Reduction

18.2.1 Additional responsibilities of the analyst or field technician when manual data reduction is performed:

1) Assure that all readings or output are precisely measured and noted on the strip charts.
2) Select appropriate formulae for calculation of final results.
3) Enter the formulae and at least one complete sample calculation on the strip chart, on the chromatogram or in the lab notebook.
4) Assure that all data are accurately transcribed into notebooks, forms or spreadsheets.
5) Enter all manual calculations into notebooks or data records.
6) Check raw data entries with final computer output to assure accurate initial data entry.
7) Record appropriate and accurate information concerning sample identification, operating conditions, etc.

Controlled Document

18.2.2 If raw data is entered into a computer or spreadsheet for data reduction, Micro-Methods maintains a record of the formulae that are used by the computer or maintains a record of the verification process when such information is not available.

18.2.3 All raw data output is retained as part of the records. In addition, the following information is retained:

1) Instrument operating conditions.
2) Detector and column types.
3) Instrument configuration.

18.3 Computer/Integrator Reduction

18.3.1 Additional responsibilities of the analyst or field technician when computer data reduction is performed:

1) Assure that data used in final calculations are entered accurately: sample weights or volumes.

2) Properly interpret the computer output in terms of properly identified components, positive or negative identifications, and appropriate confirmatory measures.

3) Record appropriate and accurate information concerning sample identification, operating conditions, etc.

4) Calculate surrogate recoveries and internal standard responses.
5) GC and GC/MS analyses must be checked to verify that target components are within acceptable retention time windows and that additional confirmation, if needed, is initiated.

18.3.2 Most analytical instrumentation is interfaced with computers or integrators that identify and/or calculate final results. Data files and chromatograms are given a unique alphanumeric identifier by the analysts that uses LIMS generated Identifier or the date or sequence number of the analysis. Pertinent information is entered into the instrument logbooks and is periodically inspected for completeness by the supervisors. Logbooks are retained as permanent records. Supervisors will review the internal audit trail during these inspections to confirm that no data files were inappropriately altered.

Controlled Document

If anomalies are found, supervisor will take appropriate corrective actions and notify the QAO.

18.4 Manual Chromatographic Peak Integration

18.4.1 Refer to Standard Operating Procedure *Chromatographic Peak Integration DCN 4008.*

18.4.2 Electronic data reduction is used for several of the more complex analytical systems (GC and GC/MS). Analysts are required to review the electronic data processing for accuracy and consistency with the appropriate data reduction techniques. Some electronic data reduction can result in incorrect integrations by the analytical system. In these instances the analysts are permitted to manually override the computer in order to correct the inappropriate integration. Examples of this may be integration of an incorrect peak, errors in calculation, or misplacement of baseline in the peak integration. When manual overrides of the computer generated data is necessary, analysts shall document the action taken and the reasons for the manual override with the concurrence of the supervisor or lab director, along with their initials. Manual override actions shall only be performed to correct inaccuracies and shall be done in accordance with sound analytical procedures.

18.5 Formulae and Calculations

18.5.1 All final results are calculated using the formula specified in the method. The table 18.6 below contains the most frequently used calculations from the methods.

18.5.2 Results are converted to the appropriate reporting units as in the tables below, but other reporting conventions (i.e., wet weight instead of dry weight) can be substituted, as required, and shall be clearly identified on the final reports with justification as needed.

18.5.3 Final results are rounded to an appropriate number of significant figures (2-3 significant figures). If the digit 6, 7, 8, or 9 is dropped the preceding digit is increased by one. The preceding digit is not altered if the digit is less than 5. When the digit to be dropped is 5, the preceding digit is rounded to the nearest even number. (1.25

Controlled Document

becomes 1.2 and 3.35 becomes 3.4). Refer to SOP *Data Reduction, Validation and Reporting*, Table 1.1, for general reporting units.

18.5.4 Components detected in blanks are reported. Blank concentrations are not subtracted from any associated sample data unless required by the method.

18.6 Summary of Equations Used in Calculations

SUMMARY OF EQUATIONS USED IN CALCULATIONS

Equations

BN/A Extractable by GC/MS [Internal Standard Method (625 & 8270)] — **Liquid µg/l (or mg/L)** — **Solid µg/Kg (or mg/Kg)**

$$\text{Relative Response Factor (RRFs)} = \frac{AX \times CIS}{AIS \times CS}$$

AS = area of standard (area counts)
AIS = area of internal standard (area counts)
CIS = concentration of internal standard (µg/ml)

$$\text{Water conc. (µg/L)} = \frac{AS \times CIS \times Vf}{AIS \times RRFS \times Vi} \times DF$$

DF = dilution factor
Vf = final extract volume
Vi = initial sample volume extracted (L)

$$\text{Soil Conc. (µg/kg)} = \frac{AS}{AIS} \times \frac{CIX}{RRFS} \times \frac{Vf}{Wspi} \times \frac{1}{(\%\ \text{solids} \times 0.01)} \times DF$$

Wspl = Weight of sample (Kg)

Controlled Document

SUMMARY OF EQUATIONS USED IN CALCULATIONS

	Equations	Liquid mg/L
General Titrimetric Procedure's		
	Analyte, mg/L = $\frac{\text{N titrant} \times \text{Titer} \times \text{eq. wt.} \times 1000}{\text{Volume of sample titrated}}$	
BOD		**Liquid mg/L**
	BOD, mg/L = $\frac{(\text{Int. DO} - \text{Final DO}) - \text{Seed Correction Factor}}{\text{Vol. Fraction of sample}}$	
Residue		**Liquid mg/L**
	Residue, mg/L = $\frac{\text{Total wt.- Wt. of dish or filter}}{\text{Vol. of sample, L}}$	

Controlled Document

SUMMARY OF EQUATIONS USED IN CALCULATIONS

Metals **Equations**

	Liquid µg/L (or mg/L)	Solid µg/Kg (or mg/Kg)

$$\text{Water conc. (mg/L)} = \frac{y - b}{m} \times \frac{Vf}{Vi} \quad X \quad DF$$

y = absorbance spl
b = y intercept from calibration curve (absorbance)
m = slope from calibration curve (absorbance/mg/ml)
Vf = volume of digest (ml)
Vi = volume of sample (L)
DF = dilution factor

$$\text{Soil Conc. (µg/kg)} = \frac{y - b}{m} \times \frac{Vf}{Wspl} \times \frac{1}{(\%\ \text{solids} \times 0.01)} \times DF$$

Wspl = Weight of sample (Kg)

UV/VIS and IR Procedures

$$\text{Water conc. (mg/L)} = \frac{y - b}{m} \times \frac{Vf}{Vi} \times DF$$

y = absorbance spl
b = y intercept from calibration curve (absorbance)
m = slope from calibration curve (absorbance/mg/ml)
Vf = final digest volume (mL)
Vi = volume of sample (L)
DF = dilution factor

Controlled Document

SUMMARY OF EQUATIONS USED IN CALCULATIONS

Equations

VOCs by GC/MS and GC

Liquid µg/l (or mg/L)	Solid µg/Kg (or mg/Kg)

Relative Response Factor (RRFs) = $\frac{AS \times WIS}{AIS \times WS}$

AS = **area of standard (area counts)**
AIS = **area of internal standard (area counts)**
WIS = **weight of internal standard (µg)**

Water conc. (µg/L) = $\frac{AS \times WIS \times DF}{AIS \times RRFS \quad Vspl}$

Water conc. (mg/L) = **µg/L ÷ 1,000**

DF = **dilution factor**
Vspl = **sample volume (L)**

Soil Conc. (µg/kg) = $\frac{AS \times WIS \times DF \times 1}{AIS \times RRFS \quad Wspl \quad (\%\ solids \times 0.01)}$

Calc. Dry Weight Basis

Dry Weight Basis (mg/kg) = µg/kg ÷ 1,000

Wspl = **Weight of sample (Kg)**

Controlled Document

18.7 Data Transfer to LIMS or Computer Programs

18.7.1 Analytical results are entered on the worksheets associated with the samples after initial review by the analyst and/or a peer, or, in some cases, can be directly transferred from the instrument to the computer program or LIMS. Approval reports can be generated from the LIMS or approval is noted on the worksheet. Data is then checked for errors and anomalies.

18.8 Validation Documentation Checklists

18.8.1 Data Review

18.8.1.1 The field sampling manager, lab director or project manager is responsible for reviewing all field data and that all field descriptions, field calibrations, field measurements and specifications have been met prior to entering any data into laboratory worksheets.

18.8.1.2 It is the responsibility of the analyst to initially review the raw data. The analyst in most cases follows a checklist to begin the data validation process. The analyst validates that the analytical system is in control and initially calculates and reviews the data for errors (refer to Operator Data Validation form below). An initial check for obvious data quality is performed (surrogates, duplicates, and spikes). Early detection of quality problems helps to ensure that the final data product is the best that Micro-Methods can produce. The data is then distributed to the supervisor or lab director for review. Prior to entering any data into the LIMS or computer program, the raw data is reviewed and signed to ensure that methods or standard operating procedures have been followed, that initial quality indicators are acceptable, that precision and requirements are met, that preparation logs and instrument logs are complete, and all the required analyses are completed as requested or required. If any known problem exists with the data, it is the responsibility of the analyst and/or supervisor to notify the lab director and the QAO through a written non-conformance report, followed by a corrective action report.

Controlled Document

18.8.1.3 All documentation and forms used in the review and validation process are maintained with the raw data and hardcopy of the report for 7 years following final submission of the report.

Operator Data Validation Requirements for 8270/625 Methods

OPERATOR
DATA VALIDATION REQUIREMENTS FOR 8270/625 METHODS
(REQUIRED EVERY 12 HOURS)

DATE _____ Analyst_____
METHOD _____ Instrument _____

1. Did the Instrument meet DFTPP tune criteria before samples were analyzed?
   YES / NO File # _____
   No Explain _____

2. Did the Continuing Calibration Check meet the method-required criteria?
   Date of 5 pt. Daily calibration check file #
   Are SPCC's greater than the minimum required by the method? YES / NO
   Are CCC's less than the maximum allowed by the method? YES / NO

3. Were all samples in this group within the calibration range or diluted to be in range?
   YES / NO

4. Are all semi-volatile surrogates within the methods stated limits or the laboratory established limits? YES / NO

5. Are all samples within the RT requirements & area abundance requirements? YES / NO

6. Does this group of samples meet the holding time requirements? YES / NO
   If No listed samples and explain _____
   _____
   If No were these samples flagged as estimated concentrations? YES / NO

7. Were any samples run outside the 12-hou periods? YES / NO
   If yes, list samples run outside of 12-hou periods? _____
   Corrective action _____

8. Was a blank run during the 12-hour period? YES / NO
   Was any target compounds detected above the detection limit in the associated blank?
   YES / NO
   List any compounds detected in the blank_____

   List samples associated with the blank is positive hits are detected in both sample & blank.
   _____
   What corrective action was taken? _____

9. Is peak resolution acceptable in these samples? YES / NO
   Note any problems with peak coelution, gross amounts of non-target contaminants, or any possible Chromatography problems suspected.
   _____

10. Were results checked for errors in data transfer and calculations? YES / NO
    Every result? YES / NO Random checks? YES / NO

11. Was a QC check sample or a matrix spike analyzed during the 12 hours? YES / NO
    File #_____ were any results outside the control limits? YES / NO

12. Were duplicates or matrix spike duplicates analyzed during the 12-hour period? YES / NO

Controlled Document

File # _____

13. Were the results checked for false positives or negatives? YES / NO How?

_____

14. Were results compared to historical data? YES / NO

Operator Data Validation Requirements for 8260/624 Methods

OPERATOR
DATA VALIDATION REQUIREMENTS FOR 8260/624 METHODS
(REQUIRED EVERY 12 HOURS)

DATE _____ Analyst _____
METHOD _____ Instrument _____

1) Did the instrument meet BFB tune criteria before samples were analyzed?
YES / NO File # _____
NO Explain _____

2) Did the Continuing Calibration Check meet the method-required criteria?
Date of 5 pt. Daily calibration check file #
Are SPCC's greater than the minimum required by the method? YES / NO
Are CCC's less than the maximum allowed by the method? YES / NO

3) Were all samples in this group within the calibration range or diluted to be in range?
YES / NO

4) Are all volatile surrogates within the methods stated limits or the laboratory established limits?
YES / NO

5) Are all samples within in the RT requirements & area abundance requirements? YES / NO

6) Does this group of samples meet the holding time requirements? YES / NO
If No list samples and explain

_____
_____
If No were these samples flagged as estimated concentrations? YES / NO

7) Were any samples run outside the 12-hour period? YES / NO
If yes, list samples run outside of 12-hour period? _____
Corrective action _____

8) Was a blank run during the 12-hour period? YES / NO
Was any target compounds detected above the detection limit in the associated blank?
YES / NO
List any compounds detected in the blank _____
List samples associated with the blank if positive hits are detected in both sample & blank.

_____
What corrective action was taken?

9) Is peak resolution acceptable in these samples? YES / NO
Note any problems with peak coelution, gross amounts of non-target contaminants, or any
Possible chromatography problems suspected.

_____

10) Were results checked for errors in data transfer and calculations? YES / NO
Every result? YES / NO Random checks? YES/NO

11) Was a 20 ppb QC check sample or a matrix spike analyzed during the 12 hrs? YES / NO
File # _____ were any results outside the control limits? YES / NO

Controlled Document

12) Were duplicates or matrix spike duplicates analyzed during the 12 hr. period? YES / NO
File # _____

13) Were the results checked for false positives or negatives? YES / NO How?

14) Were results compared to historical data? YES / NO

18.9 Data Integrity

18.9.1 Data integrity involves checking all field and laboratory data entries and calculations for errors and mistakes. It also involves review of all documentation to assure that sample ID numbers are correct and includes a review that the samples have been analyzed within appropriate holding times.

18.9.2 The supervisor or lab director performs all data integrity checks or a peer not involved in the original analysis or data reduction process. Raw data is checked for transcription errors and calculation errors (refer to Data Integrity Review form below), for completeness and acceptability. If the data is found to be acceptable, it is then distributed to the Quality Assurance Officer for review.

18.9.3 The QAO shall randomly select a percentage of data packages for systematic review reverse tracking from the final report data back through the analytical process to sample login and to sample custody.

18.9.4 All anomalies discovered by the QAO shall be compiled into a report, corrective actions implemented, and clients notified and reports revised as required.

Controlled Document

INORGANICS 1st/2nd DATA REVIEW

Client _____ **AA #** _____ **thru** _____

LF# _____ **1st Reviewer:** _____

Review Date _____ **2nd Reviewer :** _____

1st	2nd		
____	____	Minimum 10-20% of raw data checked for transcription errors	
____	____	All raw data checked for transcription errors	
____	____	Minimum 10-20% of calculations randomly checked for mathematical errors	
____	____	All calculations checked for mathematical errors	
____	____	All of the following were checked for errors: (if not, individual checked for errors)	
		1st 2nd	**1st 2nd**
		____ ____ Dilution factors	____ ____ Sample Volumes/Weights
		____ ____ Final Volumes	____ ____ Dry weight factors
____	____	Acceptability of initial and/or continuing calibration data verified	
____	____	Sample prep logs and instrument logs checked	
____	____	All required information on bench sheets/ Log Books entered	
____	____	Correct method or SOP referenced	
____	____	Chain of Custody checked for completeness	
____	____	Data compared to historical data	
____	____	Narrative Reviewed	
____	____	Holding Times Reviewed	
____	____	Sensitivity Requirements met (MDLs, Reporting Limits)	

List any QC anomalies detected:

_____

_____

____ **DATA APPROVED**

____ **DATA REJECTED**

____ **DATA QUALIFIED AND DISCUSSED IN NARRATIVE**

Controlled Document

___ **Corrective Action Required (initiate corrective action)**

ORGANICS 1st/2nd DATA REVIEW

Client _____ **AA #** _____ **thru** _____

LF# _____ **1st Reviewer:** _____

Review Date _____ **2nd Reviewer :** _____

1st	2nd				
___	___	Minimum 10-20% of raw data checked for transcription errors			
___	___	Minimum 10-20% of calculations randomly checked for mathematical errors			
___	___	All of the following were checked for errors: (if not, individual checked for errors)			
		1st	2nd		
		___	___	Dilution factors	
		___	___	Final Volumes	
		1st	2nd		
		___	___	Sample Volumes/Weights	
		___	___	Dry weight factors	
___	___	Acceptability of initial and/or continuing calibration data verified			
___	___	Sample prep logs and instrument logs checked			
___	___	All required information on bench sheets entered			
___	___	Correct method or SOP referenced			
___	___	Chain of Custody checked for completeness			
___	___	Data compared to historical data			
___	___	Surrogate Recoveries Checked			
___	___	Narrative Reviewed			
___	___	Holding Times Reviewed			
___	___	ISTD areas Reviewed			
___	___	Sensitivity Requirements Reviewed (MDLs or Reporting Limits)			

List any QC anomalies detected:

_____

_____

___ **DATA APPROVED** ___ **DATA REJECTED**

___ **DATA QUALIFIED AND DISCUSSED IN NARRATIVE**

___ **Corrective Action Required (initiate corrective action)**

Controlled Document

18.10Data Validation

18.10.1Routine data validation is accomplished by following a series of checks and reviews, which are intended to give assurance that the reported results are of a verifiable and acceptable quality. Most of these tasks are performed by the QAO, a lab supervisor or lab director not actively involved with generating the data (refer to QC Review below). In addition to the checklist example, refer to SOP *Data Reduction, Validation and Reporting)* .

18.10.2When required data is validated using checklists based on *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.* Refer to SOP *Organics Data Quality Audit Checklist DCN: 169.*

Controlled Document

WO# _____ **Lab Director** _____

Final Review Begin Date: _____ **Technical Director** _____

QC REVIEW (Technical Director) **Review Date**_____

____Verify that all Narratives are present

Verify that the following are within acceptance limits:

____Blanks (<MDL) ____LCS/LCSD (%Rec/RPD) ____MS/MSD (%Rec/RPD) ____Duplicates (RPD)

____Surrogates ____ISTD Responses (-50% to +100%)

List any QC anomalies detected: _____

_____

_____

_____

FINAL REVIEW (Lab Director) **Review Date**_____

____ Minimum 10-20% of raw data randomly checked for transcription errors

____ Minimum 10-20% of calculations randomly checked for mathematical errors

____ Correct method or SOP referenced

____ Chain of Custody checked for completeness

____ Data Package reviewed for missing or incomplete data

____All requested testing performed ____Some data is missing

Investigate and Explain any missing data:

_____

_____

_____

_____

____ Data compared to historical data ____Data reviewed for sensibility ____Holding Times verified

____ **DATA QUALIFIED AND DISCUSSED IN NARRATIVE**

____ **CORRECTIVE ACTION REQUIRED (INITIATE CORRECTIVE ACTION)**

____ **FINAL DATA APPROVAL by LAB DIRECTOR** **APPROVED BY: _____Technical Director**

____ **DATA REJECTED by LAB DIRECTOR** **REJECTED BY: _____Technical Director**

Controlled Document

18.11 Data Reporting

18.11.1Data Qualifier Codes (Data Flags)

18.11.1.1 Data flags are used on reports as needed to inform the data interpreters and users of any additional or pertinent information that would assist in clarification or enhancement of the data. The data flagging system is shown in below which is similar to the flags used in the CLP protocols, but contains additional flags for field use. Additional qualifiers may be added to the list to explain anomalies more clearly. Case narratives are written for anomalies, and to verify the data quality. Each laboratory supervisor is responsible for compiling the information for the respective part of the narrative. The following data qualifiers shall be the basis of the symbols used in the reports. Other qualifiers shall be added to this list to provide more clarification.

18.11.1.2 Any data that is reported below the lower limit of quantitation shall be considered to have an increased quantitative uncertainty and shall be reported using defined qualifiers or flags or explained in the case narrative.

18.11.1.3 To be valid data the raw results must be bracketed by the calibration range. When the analysis exceeds the calibration range, the sample shall be appropriately diluted such that the diluted result is in the upper half of the calibration range. The results and reporting limits shall reflect the dilution and a qualifier shall be associated with the diluted results. In the event that data must be reported that exceeds the calibration range, qualifiers shall accompany the affected results with and explanation in the narrative. This type data shall be considered to have a greater quantitative uncertainty and shall be reported as having a greater quantitative uncertainty (estimated value, suspect result, etc,...)

U—Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to

Controlled Document

10 dilution factor, the sample quantitation limit for phenol (330 U) would be corrected to

$\frac{(330\ U)}{D}$ X dilution factor Where $D = \frac{100 - \%\ moisture}{100}$

For example, at 24% moisture, $D = \frac{100 - 24}{100} = 0.76$

$\frac{(333\ U)}{0.76}$ X 10 = 4382 U Round to 4400 for 2 significant figures

J—Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1 : 1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less that the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3 J. The sample quantitation limit must be adjusted for dilution as discussed for the U flag.

N—Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results.

P—This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported and flagged with an "P".

C—This flag applies to pesticide results where identification has been confirmed by GC/MS. If the GC/MS confirmation was unsuccessful, do not apply this flag, instead use a laboratory-defined flag.

B—This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank

Controlled Document

contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

E—This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed. All such compounds with a response greater than full scale should have the concentration flagged with an "E" for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported.

D—This flag identifies all compounds in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the report for the diluted sample, and all concentration values reported are flagged with the "D" flag. This flag alerts data users that any discrepancies between the concentrations reported may be due to dilution of the sample or extract.

A—This flag indicates that a TIC is a suspected aldol-condensation product.

X—Other specific flags may be required to properly define the results. If used, they must be described fully, and such description attached to the report. Begin by using "X". If more than one flag is required, use "X" and "Y", as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for a sample. The laboratory defined flags are limited to the letters "X", "Y", and "Z".

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are detected in the sample.

Controlled Document

18.11.1.4 When performing work in the state of Florida, the following qualifiers shall be used:

DATA QUALIFIER CODES
******To Be Used in the State of Florida and where Applicable**

SYMBOL	MEANING
A	Value reported is the mean (average) of two or more determinations. This code shall be used if the results of two or more discrete and separate samples are averaged. These samples shall have been processed and analyzed (e.g. laboratory replicate samples, field duplicates, etc.) independently. Do not use this code of the data are the result of replicate analyses on the same sample aliquot, extract or digestate. Under most conditions, replicate values shall be reported as individual analyses.
B	Results based upon colony counts outside the acceptable range. This code applies to microbiological tests and specifically to membrane filter colony counts. The code is to be used if the colony count is generated from a plate in which the total number of Coliform colonies EXCEEDS the method indicated ideal ranges that are: Total Coliforms: 20 - 80 colonies Fecal Coliforms: 20 - 60 colonies
F	When reporting species: F indicates female sex.
H	Value based on field kit determination; results may not be accurate. This code shall be used if a field screening test (i.e. field gas chromatograph data, immunoassay, vendor-supplied field kit, etc.) was used to generate the value and the field kit or method has not been recognized by the Department as equivalent to laboratory methods.
J	Estimated value; value not accurate. This code shall be used in the following instances: 1. surrogate recovery limits have been exceeded; 2. no known quality control criteria exists for the component; 3. the reported value failed to meet the established quality control criteria for either precision or accuracy; 4. the sample matrix interfered with the ability to make any accurate determination; or

Controlled Document

5. the data is questionable because of improper laboratory or field protocols (e.g. composite sample was collected instead of a grab sample).

Note: 1. A "J" value shall be accompanied by justification for its use.

2. A "J" value shall not be used if another code applies (ex. K, L, M, T, V, Y, PQL)

K Off-scale low. Actual value is known to be less than the value given. This code shall be used if:

1. The value is less than the lowest calibration standard AND the calibration curve is known to be non-linear; or
2. The value is known to be less than the reported value based on sample size, dilution or some other variable.

This code SHALL NOT be used to report values that are less than the laboratory practical quantitation limit or laboratory method detection limit.

L Off-scale high. Actual value is known to be greater than value given. To be used when the concentration of the analyte is above the acceptable level for quantitation (exceeds the linear range or highest calibration standard) AND the calibration curve is known to exhibit a negative deflection.

M When reporting chemical analyses: presence of material is verified but not quantified. The reported value shall be the laboratory practical quantitation limit. This code shall be used if the level is too low to permit accurate quantification, but the estimated concentration is GREATER THAN the laboratory method detection limit. If the value is less than the method detection limit, use "T", below. When reporting Oxygen Reduction Potential or Temperature: indicates a negative value When reporting Species: indicates male sex.

N Presumptive evidence of presence of material. This qualifier shall be if:

1. the component has been tentatively identified based on mass spectral library search;
2. if the presence of the analyte is indicated but there is evidence of possible interferences; or
3. there is an indication that the analyte is present, but quality control requirements for confirmation were not met (i.e. presence of analyte was not confirmed by alternate procedures).

Controlled Document

O Sampled, but analysis lost or not performed. Note: if reporting data to STORET, a numerical value must be entered. Such values are not meaningful and shall not be used.

Q Sample held beyond the accepted holding time. This code shall be used if the value is derived from a sample that was prepared and/or analyzed AFTER the approved holding time restrictions for sample preparation and analysis.

T Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and SHALL NOT be used in statistical analysis.

U Indicates that the compound was analyzed for but not detected. This shall be used to indicate that the specified component WAS NOT detected. The value associated with the qualifier shall be the laboratory method detection limit. Unless requested by the client, less than the method detection limit values shall not be reported (see "T" above).

V Indicates that the analyte was detected in both the sample and the associated method blank. Note: the value in the blank shall not be subtracted from associated samples.

Y The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.

Z Too many colonies were present (TNTC), the numeric value represents the filtration volume.

PQL The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

REJ Data is rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.

NAI Not analyzed due to interference.

Controlled Document

If more than one code applies, and the data is to be entered into STORET, only one code shall be reported. The code shall be selected based on the following hierarchy:

REJ
NAI, O
Y
V
H
J
B, K, L, M, PQL, T, Z
A

The following codes deal with certain aspects of field activities. The codes shall be used IF the laboratory has knowledge of the specific sampling event. The codes shall be added by the organization collecting the sample, if they apply:

D Measurement was made in the field (i.e. in situ). This applies to any value (ex pH, specific conductance, etc.) that was obtained under field conditions using approved analytical methods. Note: when data is to be entered into STORET, and the parameter code specifies a field measurement (e.g. "Field pH"), this code is not required.

E Indicates that extra samples were taken at composite stations.

R Significant rain in the past 48 hours. This code shall be used when the rainfall might contribute to a lower than normal value.

HIS Data deviates from historically established concentration ranges.

18.11.2Laboratory Data Reports

18.11.2.1 All parties involved with the data review and validation process are responsible for providing data entry operators or clerical staff with accurate records for transcription. The Data Manager (office manager or clerical staff) assembles and prints the report, then distributes the report to the Laboratory Director for final review. The Lab Director reviews and, if the data is acceptable, signs the report and releases the report to the client. Custom reports and project specific data deliverables can also be provided to meet the specific needs of the client.

Controlled Document

18.11.2.2 Case narratives discussing the quality control issues shall be written and shall be part of the final report. The narrative shall include any deviations from (such as failed quality control), additions to or exclusions from the test method (such as environmental conditions), and any non-standard conditions that may have affected the quality of results. A list of data qualifiers shall be attached to explain the use of any data qualifiers. Opinions and judgments shall be clearly noted as well as the basis upon which the opinions and judgments are made.

18.11.2.3 Final reports shall be entitled "Laboratory Results". The report shall include the name, address, and phone number of the Laboratory. The report shall also designate a contact. Each report shall have a unique lab file number. Pages shall be numbered in the form of page X of Y (example: 2 of 15). The report shall contain the name and address of the client and if available, the project name. The sample shall contain a description and a unique laboratory ID number, including any client identification number. The report shall include the date of sample receipt, date and time of collection, date of analysis, and the date and time of sample preparation and/or analysis if the required holding time for either activity is less than or equal to 72 hours. The report shall contain the test method used. When the laboratory collects the sample a reference to the sampling procedure shall be included. The report shall include measurements, examination and derived results, supported by appropriate documentation, noting any failures. Results shall reflect the units and dry or wet weight calculations. The report shall contain the name of the statistical package used to provide data. The report shall include an approved signatory and title of the person accepting responsibility for the content of the report as well as the date of issue of the report. The report shall contain a statement that the results relate only to the items tested or to the sample received by the laboratory and shall contain a statement that the report shall not be reproduced except in full, without the written approval of the laboratory. The final report shall include QA/QC data and also acceptance limits. When test data is provided by outside sources, such as subcontracted laboratories, the data shall identify the subcontractor and the data. The subcontractor's report shall be attached to the final report and shall provide clear identification of numerical results with values

Controlled Document

outside of quantitation limits. Subcontractors shall submit hard copy reports. In the event subcontractors are requested to submit a report electronically, the subcontractor shall be subject to all of the confidentiality requirements established in Chapter 4 of the QAM.

18.11.2.4 Amendments to reports shall be marked as "Amendments'. Amendments following issuance of a report shall be entitled "Revisions". Changes or corrections to a report shall be title "Revision". All changes to the reports shall meet the requirements of the NELAC standards. All amendments and revisions to reports shall reference the original report in the cover letter.

18.11.2.5 Errors detected in reports or LIMS data will be tracked using the following form:

REPORT ERRORS FORM
Corrective Action Request (Errors in Report) ____
Corrective Action Request (Errors in LIMS data)____

Nature of the Problem:

_____
_____
_____

Errors Corrected by:_____ **Date**_____

Corrective Action Request (Errors in Report) ____
Corrective Action Request (Errors in LIMS data)____

TO: _____ **DATE:** _____

_____ **RE:**

_____ **FROM:**

Nature of the Problem:

_____
_____
_____

Errors Corrected by:_____ **Date**_____

Corrective Action Request (Errors in Report) ____

Controlled Document

Corrective Action Request (Errors in LIMS data)____

TO: _____ **DATE:** _____

_____ **RE:**

_____ **FROM:**

Nature of the Problem:

_____

_____

_____

Errors Corrected by:_____ **Date**_____

18.12Final Report Authorization

18.12.1All final reports will be authorized for release by the Lab Director on the cover page. In the event that the Lab Director is unable to perform this duty, one of the approved signatories from section 2.1.1.1 of this manual may authorize the report for release.

Controlled Document

19.0 NON-CONFORMANCE AND CORRECTIVE ACTION

19.1 Definition of Non-Conformance

19.1.1 American National Standard ANSI/ASQC E-4-1994 Specifications and Guidelines for Quality Systems for Environmental Data collection and Environmental Technology Programs defines non-conformance as a deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate; non fulfillment of a specified requirement. When a non-conformance is discovered or suspected the occurrence is reported immediately. The QAO and/or Lab Director or designees are responsible for reviewing the circumstances of nonconformity to determine what corrective action should be taken. Non-conformance Event Review Report is initiated by the investigator (refer to Figure). The analyst or technician generally fills out the first 6 entries. The QAO and/or the Lab Director will complete the form. This form is used as the documentation for non-conformities. The QAO and/or Lab Director will take all steps necessary to prevent repetition of non-conformities.

19.2 Corrective Action Process

19.2.1 Once the non-conformity has been identified, the QAO or Lab Director will initiate a Corrective Action Request. Corrective action can be divided into two types:

1) Immediate . . . to correct or repair non-conforming data or equipment.

2) Long term . . . to eliminate causes of non-conformance and take measures to verify that they do not recur.

19.2.2 The status of all corrective actions are tracked in a Corrective Action Request Master Log when more than one CAR is processed at a time.

19.2.3 Summaries of the CARs and NCERRs are prepared from the CARML annually, or as needed, to be evaluated for effectiveness of the corrective action. This task is assigned to the QAO and/or Lab Director.

Controlled Document

Maintenance of the Corrective Action Request Master Log is the responsibility of the QAO.

19.2.4 The Table Below (also refer to SOP *Corrective Actions*) summarizes the quality control checks and acceptance criteria and the recommended corrective action for most of the analytical and QC activities in place.

19.2.5 19.11 contains a CAR specific for Quality issues and applies to most of the routine QC out of specification results.

19.3 Quality Control Measures and Acceptance Criteria

19.3.1 The table below identifies each of the quality control checks that are required by test methods, regulatory bodies and/or Lab acceptance criteria. The acceptance range criteria or the source of the acceptance range is identified. Quality Control Limits and Acceptance range criteria will be evaluated for effectiveness and updated from the LIMS system using 25 sample points and annually at minimum for the routine test procedures. Data usability is derived from acceptable and reliable control procedures. For analytical procedures that have no established acceptance/rejection criteria or required by the procedure that the laboratory generate the control limits, the criteria will be derived from spiking a minimum of 4-7 (preferred 25) samples of the same matrix, then entering the results into the LIMS and generating control limits based on +/- 3 Standard Deviations from the mean, then updating annually or whenever there exists enough data to warrant the criteria change. If 4 –7 samples cannot be spiked to determine the criteria, substitute Lab Reagent Water or Sand as the matrix and establish Lab Controls. In some complex matrices, it may be difficult to establish limits that would be considered reliable. If 4-7 samples cannot be spiked, default method control limits will be used until such time as more representative controls can be generated. If no method control limits exist the range of 50%-150% can be used. Sample Narratives must accompany the data. Use Flags when necessary.

19.4 Identifying and Assessing QC Measures (Responsibility Designation)

19.4.1 Generally, several individuals review quality control information. The responsibility for the initial assessment of a quality control measure lies with the individual who (1) identifies the sample or procedure as a QC measure; and (2) has access to the test results.

Controlled Document

19.4.2 The individual responsible for operating the analytical instrument or equipment must be responsible for assessing the following applicable QC Measures:

1. Method, reagent and calibration blanks
2. Calibration integrity: initial and continuing calibration, interference standards, and QC check standards
3. System performance checks
4. Tuning criteria
5. Surrogate and internal samples
6. Titrating solutions

19.4.3 The following checks are normally assessed by a secondary reviewer (supervisor, lab director, or QAO) but may be evaluated by the primary analyst:

1. Standard Reference Material
2. QC Check Samples
3. Spiked samples (matrix and blank)
4. Duplicates

19.4.4 The following must be assessed by the field supervisor or individual(s) responsible for sample collection, but may be reviewed by laboratory personnel if the sample has been identified as:

1. Precleaned and field cleaned equipment blanks
2. Trip blanks
3. Field collected duplicates
4. Split samples

19.5 Determining the Source of QC Problems

19.5.1 Once a problem has been identified, the process (whether analytical or review) should be halted until the reason for the problem has been identified. Finding the source of a QC problem involves identifying probable sources of error, and checking each source to determine if the protocols were properly followed. Common sources of error and expected follow-up protocols are outlined on Table 1-2. Usually, the individual who is responsible for identifying the problem is responsible for determining the cause. However, other personnel and organizations may need to cooperate.

Controlled Document

19.6 Initiating Corrective Action

19.6.1 When the source of a QC error has been identified, appropriate steps must be taken to eliminate or minimize recurrences.

19.6.2 If a QC measure listed in section 3 above is not acceptable, testing cannot continue until the QC check meets specifications. Corrective actions should be initiated:

1. By the individual who is operating the instrument; or
2. By an individual in oversight authority (i.e. supervisor, lab director, or QAO) if a solution is not immediately apparent.

19.6.3 The individual who identifies the problem must initiate corrective actions for QC measures above. The individual must initiate a Corrective Action Form and distribute it to the relevant section or individual. The completed CA Form will be returned to the QAO to receive a corrective action request # and to be logged in the Master Log.

19.7 Documentation and Notification of Affected Parties

19.7.1 If a quality control measures fails to meet acceptance criteria, the QC measure, and the procedures were used to correct the problem must be documented.

19.7.2 The responsible person initiates documentation. Corrective actions that are initiated during an on-going analytical run may be documented on the chromatogram, integrator or strip chart recorder records as well as in the instrument, analytical and/or field logs.

19.7.3 Corrective actions that require input or intervention of more than one individual must at a minimum be documented in the related logs and records. Corrective action forms for larger organizations are recommended.

19.7.4 If more than one organization is involved with identifying a QC problem and the associated corrective actions, formal memos are recommended, although dated and signed phone logs are acceptable. In all cases, a copy of all documentation must be maintained in the project files.

19.7.5 Corrective action documentation must either be through the Corrective Action Form DCN 063 or in bound lab notebooks. The Corrective Action Form is preferred because of ease of use.

Controlled Document

19.7.6 If an identified quality control problem affects more than one set of data or multiple projects, the documentation associated with identifying and resolving the problem must be cross referenced to all associated projects.

19.7.7 All parties affected by out of control data will be contacted by phone or email as soon as possible, followed by written notification and explanation in the narrative of the data that is out of control. This also applies to data found to be out of control during data audits and any event such as the identification of defective measuring or test equipment that casts doubt on the validity of results given in any test report or test certificate or amendment to a report or certificate.

19.7.8 All corrective action reports, audits and audit responses shall be retained for 7 years following final submission or completion.

19.8 Corrective Actions from External Sources

19.8.1 The need to initiate corrective action may be the result of activities or audits from external sources. Sources include systems audits; performance audits; split samples; blind QC samples; and findings from project or data validation review.

19.8.2 In all cases where the need for corrective action as a result of a third party audit, the recommended corrective actions must be initiated and accomplished within the time frame agreed on between the auditing body and Micro Methods management.

19.9 Correcting Transcription Errors

19.9.1 **Make no Erasures to data.**
Do not overwrite data.
Do not obliterate data.
19.9.2 Draw a single line using blue or black ink through the mistake or error in the Log Book, or other document.
19.9.3 Record the change.
19.9.4 Initial or sign the change.
19.9.5 Date the change.
19.9.6 Record the reason for the change where clarification is needed.

Controlled Document

19.10 Correcting Errors in the LIMS

19.10.1. Log in to the computer using your access name and password.
19.10.2Access the sample results analysis.
19.10.3Change the result.
19.10.4Save the result.
19.10.5Give the reason for the change in the comments boxes if clarification or additional info is needed.
19.10.6For other computer files change the result and change the revision number. In the DCN master log record the reason for the change.

Controlled Document

19.11 QC Corrective Action Report Form

GC/MS LAB
QC CORRECTIVE ACTION REPORT

TO: _____ **DATE:** _____
RE: _____
FROM: _____

NATURE OF THE PROBLEM:

_____
_____

PROBLEM ASSOCIATED WITH QC CHECK
Method Blank_____
Daily Chk. Std. _____
MS % Recovery _____
MSD % Recovery _____
RPD _____
REP/DUP_____
Surrogate Recovery _____

Is there a known cause of this problem?

_____
_____

List any samples related to QC chk.

_____
_____

CORRECTIVE ACTION TAKEN:

_____
_____

Results Flagged _____ **Samples Reanalyzed**_____
Recalibration _____ **Analyzed by diff. instrmt./method?**_____

Date of Corrective Action:_____
Did this action eliminate the problem?_____
Is further action necessary?_____
Suggestions to improve:_____
_____

Analyst:_____ **Supervisor:**_____
QAO :_____ **Management:**_____

Controlled Document

Date:_____

19.12 Nonconformance Event Review Report

NONCONFORMANCE EVENT REVIEW REPORT

Sample Identification No. _____ Date: _____
Sample Description:_____
Method: _____
Suspected nonconformance:_____
_____
Expected Result: _____
_____

ACTIONS TAKEN

1. Reported to: _____
2. Reported by: _____
3. Event logged in laboratory notebook: Yes _____ No _____
4. New Samples requested: Yes _____ No _____
5. Customer notified: Yes _____ No _____
6. Retest or reanalysis necessary: Yes _____ No _____
   If yes, to whom assigned: _____
7. Third party laboratory confirmation necessary: Yes _____ No _____
   If yes, Name of Laboratory _____

Review Date _____ _____
Quality Assurance Officer

Controlled Document

19.13 Corrective Action Request Form

CORRECTIVE ACTION REQUEST

Corrective Action Request Form No.: _____ **Suspense Date:** _____

Originator: _____ **Date:** _____

Person responsible for replying: _____ **Organization:** _____

Nature of Problem below:

_____
_____
_____
_____
_____

Cause of Problem:

_____
_____
_____
_____
_____

Signature _____

During what phase of operation was the problem identified?

_____

RETURN TO: **Name:** _____
Address: _____
By: (Date) _____

Controlled Document

19.14 Routine Corrective Actions

19.14.1 Acceptance Criteria and Corrective Actions for Quality Control Checks

QC CHECK	ACCEPTANCE CRITERIA
BLANKS	
Method blank	<MDL
Reagent blank	
Calibration blank	
Precleaned Equipment Blanks	
Field Cleaned Equipment Blanks	
Trip Blanks	
CALIBRATION	
Initial calibration	a. Method acceptance criteria* b. SOP acceptance criteria
QC Check Standard	a. Method acceptance criteria* b. +/- 10% of true value c. Internally generated control limits
Continuing calibration	a. Method acceptance criteria calibration* b. +/- 20% deviation from initial calibration c. Internally generated control limits
Interference standard	Method acceptance criteria
Tuning criteria	Method acceptance criteria
SYSTEM PERFORMANCE CHECKS	
Pesticide	Method acceptance criteria
Standard Reference Materials	Within certified limits
QC Check Samples	Within specified limits

- Method acceptance criteria shall be followed. If none is provided, the criteria (b) or internal, historically generated control limits (c) shall be used.

Controlled Document

SPIKES	
Matrix Spike	Within range specified by QAM (accuracy acceptance limits)
Blank Spike	Within method specified criteria
DUPLICATES	
Laboratory Duplicates	Within range specified by QAM , Method or Lab Generated Data established precision acceptance limits)
Matrix Spike Duplicates	Within range specified by QAM , Method or Lab Generated Data established precision acceptance limits
Field Duplicates	Within range specified by QAM , Method or Lab Generated Data established precision acceptance limits
OTHERS	
Surrogate Standards	Calculated from Lab Generated Data
Internal Standards	Method acceptance criteria
Split Samples	Meets precision Lab Generated acceptance criteria
Titrating Solutions	a. +/- 10% of expected (lab determined) value b. Replicate sample aliquot results are within method specified limits
MICROBIOLOGY	
Monthly parameters	Per Section 17.8.6 QAM
Chlorine Residual	Per Section 17.8.6 QAM
Conductivity	Per Section 17.8.6 QAM
Heterotrophic Count	Per Section 17.8.6 QAM
Annual metals concentration	Per Section 17.8.6 QAM
Distilled water suitability test	Per Section 17.8.6 QAM

Controlled Document

Incubators	35 +/-0.5 C or 44.5 +/-0.2 C
Duplicates	Within calculated precision criteria generated by Lab data
Morphological and Biochemical Confirmation	Per Table IV-A-5 of EPA-600/8-78-017
Positive and negative media controls	Per Table IV-A-4 of EPA-600/8-78-017
MF Blanks	<1
MPN dilution blanks	<1
Inhibitory residue	Must meet method criteria

MICROBIOLOGY

Membrane Filter Analysis	Verified colonies must be Coliforms
MPN Analysis	Verified colonies must be Coliforms

19.14.2 Probable Sources and Expected Corrective Actions

1. **BLANKS**
   a. Sources and expected review procedures:
      1. Contaminated reagents - verify reagent sources
      2. Environmental Contamination (all sample collection, sample and analysis conditions) - review sampling handling protocols
      3. Improper or incomplete laboratory and/or field decontamination/cleaning procedures - review cleaning protocols
      4. Contaminated sample containers - verify source and storage conditions
      5. Contaminated source water - verify water source
   b. Expected Corrective Actions:
   1. When results of the analysis of the laboratory blank exceeds the reporting limit, cease the related analysis, and review data with respect to reported contamination levels. If sample concentrations are near the reported blanks levels, reprocess (re-extract or

Controlled Document

digest) associated samples or call for resample. If sample concentrations or the reporting levels are significantly higher than blanks, or contaminants are not detected in the samples, report the sample data and concentrations in blank. Flag results in blank. In the event no resample can be performed, contact the client, then report the results with appropriate data flags.

2. Take measures to eliminate future problems: discard reagents, revise protocols, perform preventative maintenance on system, adjust use of interfering chemicals (solvents, fuels, etc.).

2. CALIBRATION

a. Sources and expected review procedures:
   1. Improperly prepared or outdated standards - review preparation logs for calculation/dilution errors and use of expired sources.
   2. Improperly prepared or outdated check standard - verify check standard
   3. Poor instrument response - determine if preventative maintenance is required
   4. Incorrect calculations - review and verify all calculations
   5. Contamination problems (see blanks above)

b. Expected Corrective actions for initial calibrations:
   1. Recalculate calibration curve
   2. Prepare fresh standards
   3. Recalibrate instrument
   4. Perform preventative maintenance
   5. Perform mass calibration and retune
   6. Reanalyze all samples bracketing those from previous ACCEPTABLE QC check through next acceptable QC check.
   1. Take measures to eliminate sources of contamination

c. Expected Corrective actions for continuing calibration criteria failure:
   1. In the event that the continuing calibration verification fails, cease all analyses related to the calibration. Investigate the problem and correct the problem. Analyze two consecutive acceptable calibration verifications or analyze another set of initial calibration standards, verify and proceed with the analysis.
   2. Do not report data that has been analyzed following a failed continuing calibration verification. Investigate and correct the problem, then reanalyze if necessary.

3. SYSTEM PERFORMANCE CHECKS

a. Sources and expected review procedures:
   1. Pesticides:
   Poor column performance - replace/repack column

Controlled Document

2. Standard Reference Materials and QC Check Samples:
   a. Improper sample preparation or analysis - review all protocols associated with sample preparation and analysis
   b. Incorrect dilutions or calculations - recheck all calculations
   c. Contamination (see blanks above)

b. Expected Corrective Actions:
   1. Reanalyze all samples bracketing those from previous ACCEPTABLE QC check through next acceptable QC check

SYSTEM PERFORMANCE CHECKS, Expected Corrective Actions
   1. Reprocess all samples associated with QC check sample or standard reference material (unless the problem is unique to processing of the check sample)
   2. Take measures to eliminate sources of contamination

4. SPIKES

a. Sources and expected review procedures:
   1. Error in calculation - review/recheck all calculations
   2. Error in preparing or using spike solutions - review all preparation and/or analytical logs including sample preparation) for proper dilutions, solvents, buffers, etc.
   3. Outdated standards - review expiration dates and standard preparation logs
   4. Contamination problems (see blanks above)
   5. Poor instrument response - determine if preventative maintenance is required

b. Expected Corrective Actions:
   1. Take measures to eliminate contamination problems, reprocess if necessary
   2. Perform required maintenance and revise pm schedules
   3. Review preparation, calculation and record keeping to determine if additional training or more stringent protocols are needed
   4. If the laboratory has no historical data to show that the sample matrix produces consistently unacceptable (out of control) recoveries, and none of the sources discussed above are responsible for the problem, the sample must be reprocessed and reanalyzed. If reanalysis produces the same result, associated samples should be reported with qualified results. If results are different, all associated samples must be reprocessed for analysis.

5. DUPLICATES

a. Sources and expected review procedures:
   1. Non representative sample - review sample collection and/or sample processing protocols
   2. Error in calculations - recheck calculations
   3. Contamination problems (see blanks above)

Controlled Document

4. See matrix spikes above

b. Expected Corrective Actions:
   1. Report data with qualifiers and explanation
   2. Revise sample collection/sample processing protocols to assure a representative sample
   3. Takes measures to eliminate contamination problems.
   4. Reprocess and reanalyze sample set (if laboratory generated replicate).

6. SURROGATE SPIKES

a. Sources and expected review procedures:
   1. See 4.a above

b. Expected Corrective Actions:
   1. See 4.b above

7. INTERNAL STANDARDS

a. Sources and expected review procedures:
   1. See 4.a above

b. Expected Corrective Actions:
   1. See 4.b above
   2. Reanalyze samples from last acceptable QC check to next acceptable QC check

8. SPLIT SAMPLES

a. Sources and expected review procedures:
   1. See 5.a above

b. Expected Corrective Actions:
   1. See 5.b above

9. TITRATING SOLUTIONS

a. Sources and expected review procedures:
   1. Error in calculation - review/recheck all calculations
   2. Error in preparing or using titrant and standard solutions - review all preparation and/or analytical logs (including sample preparation) for proper dilutions, solvents, buffers, etc.
   3. Outdated standards and/or - review expiration dates and standard preparation logs
   4. Contamination problems (see blanks above)
   5. Non representative sample - review sample collection and/or sample processing protocols
   6. Indistinct or inconsistent endpoint readings

b. Expected Corrective Actions:
   1. Take measures to eliminate contamination problems, reprocess if necessary

Controlled Document

2. Review preparation, calculation and record keeping to determine if additional raining or more stringent protocols are needed
3. If replicate analyses are not acceptable, titrate additional aliquots
4. Reanalyze samples from last acceptable QC check to next acceptable QC check
5. Train analysts to titrate to consistent endpoint

10. MICROBIOLOGY - MONTHLY PARAMETERS, METALS, WATER SUITABILITY

a. Sources and expected review procedures:
   1. Deionizer/Water not functioning properly
b. Expected Corrective Actions:
   1. Clean, replace cartridges and/or perform other preventative maintenance tasks
   2. Reanalyze water
   3. Reprocess samples (if still within holding times) or resample

11. MICROBIOLOGY - AUTOCLAVE

a. Sources and expected review procedures:
   1. Autoclave not functioning properly
b. Expected Corrective Actions:
   1. Perform preventative maintenance and resterilize

12. MICROBIOLOGY - INCUBATORS

a. Sources and expected review procedures:
   1. Incubator not functioning properly
   2. Thermometers or recording devices not functioning properly
b. Expected Corrective Actions:
   1. Perform preventative maintenance on devices, recalibrate if necessary
   2. Reprocess samples (if still within holding times) or resample

13. MICROBIOLOGY - DUPLICATES

a. Sources and expected review procedures:
   1. Counting errors or difficulties in identifying Coliform organisms (membrane filter).
   2. Nonrepresentative sample.
   3. Contamination problems.
b. Expected Corrective Actions:
   1. Recount or re-examination colonies to determine counting error or misidentifications.
   2. Examine blanks and samples analyzed to determine possible sources of contamination.

Controlled Document

3. If 14.a.2 above is found to be the problem, or the problem has not been identified, data must be invalidated and resampling and retesting must occur.

14. MICROBIOLOGY - ATCC AND BIOCHEMICAL CONFIRMATION

a. Sources and expected review procedures:
   1. Media prepared improperly (incorrect pH, sterilized too long, etc.).
   2. Incorrect incubator temperatures.
   3. Media shelf life has expired and no longer functions properly.

b. Expected Corrective Actions:
   1. Isolate problem with media preparation.
   2. Confirm proper incubator temperatures.
   3. Prepare new batch of media from the same lot to determine media acceptability or discard media if the shelf life has expired.
   4. Prepare new media from a different lot number.
   5. Invalidate all affected data linked to the media that was not functioning acceptability.

15. MICROBIOLOGY - POSITIVE AND NEGATIVE MEDIA CONTROLS

a. Sources and expected review procedures:
   1. See 14.a.1-3 under ATCC or biochemical confirmation.
   2. Samples used were not positive or negative.
   3. Improper analytical protocol.
   4. Contamination problems (negative control).
   5. Colony misidentification.
   6. Stressed organisms that did not respond in a typical fashion.

b. Expected Corrective Actions:
   1. See 15.b.1-4 under corrective actions for ATCC or biochemical confirmation.
   2. Re-examine response for misidentifications.
   3. Use alternate positive and negative control samples to confirm media response and check on original samples.
   4. Invalidate data and retest if problem was with the media or testing system.

16. MICROBIOLOGY - MF BLANKS

a. Sources and expected review procedures:
   1. Equipment or rinse water/dilution water improperly sterilized.
   2. Rinsing technique not adequate.
   3. Contamination problems.

b. Expected Corrective Actions:
   1. Review sterility checks on the autoclave for rinse/dilution water and other associated equipment.

3. Evaluate rinsing protocols between samples.

Controlled Document

Review testing procedures and test location for other sources of contamination. Reject data and resample

17. MICROBIOLOGY - MPN DILUTION BLANKS

a. Sources and expected review procedures:
   1. Equipment or dilution water not properly sterilized.
   2. Contamination problems during test procedure.

b. Expected Corrective Actions:
   1. Review sterility checks on the autoclave for dilution water and other sterilized equipment.
   2. Review testing procedures and location for possible sources of contamination.

18. MICROBIOLOGY - INHIBITORY RESIDUE TESTS

a. Sources and expected review procedures:
   1. Detergent residues inhibit bacterial growth.
   2. Alternate rinsing practice alleviates the problem.

b. Expected Corrective Actions:
   1. Implement rinsing protocols that produce an acceptable inhibitory residue test.
   2. Change detergents to one that produces an acceptable test result under normal rinsing operations.

19. MICROBIOLOGY - MEMBRANE FILTER VERIFICATION

a. Sources and expected review procedures:
   1. Compare original counts against verified colony counts.

b. Expected Corrective Actions:
   1. Adjust initial colony count based upon positive verification percentage and report as verified Coliform count.

20. MICROBIOLOGY - MPN COMPLETED TESTS

a. Sources and expected review procedures:
   1. Compare original results against completed test results.

b. Expected Corrective Actions:
   1. Adjust original MPN result calculated from the completed test results.

Controlled Document

20.0 QUALITY ASSURANCE REPORTS TO MANAGEMENT

20.1 The QAO is responsible for scheduling and providing quality assurance reports to Management or clients and auditors. The report includes at a minimum the following where applicable:

20.1.1 Findings, responses and corrective actions to audits, both external and internal.

20.1.2 Results from performance evaluation studies, both internal and external.

20.1.3 Summaries of non-conformities and corrective actions for routine analytical operations.

20.1.4 Completed internal audit evaluation

20.1.5 Results of technical reviews of personnel and analytical activities.

20.2 QA Reports to management shall be prepared and submitted annually prior to the managerial meeting.

Controlled Document

Example of a Performance Audit QC Report

Micro Methods Laboratory
Annual QC Audit Report
January 2001- 2002

Performance A	Type	System Tested	Reported Result	True Val	Corrective Action
1-12-01	Internal	Metals—Unacceptable DMR results on Hg and As			See Attached Corrective Action Report
1-16-01	Internal	Wetlab—Unacceptable results on Ammonia & Phosphorous			See Attached Corrective Action Report
6-29-01	Internal—results of WP Apr 2001	Metals—Molybdenum	256	396	Results were reported from ICP-1, due to maintenanc problems with ICP-2, Performed Maintenance on ICI ran WP test again on ICP-2 –acceptable results
		Metals—Thallium	82.6	403	See above
		Metals—Zinc	579	500	See above
		Metals—Potassium	20.8	17	Results reported from Flame AA, ICP needed maintenance, Performed Maintenance on ICP-2, ran ' test again on ICP-2 –acceptable results
		Metals—Sodium	39.2	47	See above

21.0 REFERENCES

21.1 Test Methods for Evaluating Solid Waste, Third Edition, SW-846.

21.2 Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020.

21.3 Standard Methods for the Examination of Water and Wastewater.

21.4 Code of Federal Regulations, Title 40, part 136.

21.5 Annual Book of ASTM Standards.

21.6 Methods for the Determination of Organic Compounds in Drinking Water.

21.6 ISO/IEC Guide 25: 1990 (E).

21.7 American National Standard ANSI/ASQC E4-1994 *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs.*

21.8 ISO/IEC 17025 Standard, *General Requirements for the Competence of Testing and Calibration Laboratories, Dec. 1999*

21.9 LAC Title 33

21.10 Micro Methods Laboratory Quality Assurance Manual Revisions 0-7

21.11 NELAC Standards 2003

Controlled Document

22.0 TABLES OF QUALITY OBJECTIVES

22.1 EPA Method 602 Purgeables Aromatics by GC

Quality Assurance Objectives

EPA Method 602 **Purgeables Aromatics by GC**

Audit	Parameter	Control Limit
Method Blank (Process)	all method analytes	<MDL
Continuing Calibration Standard	all method analytes	RF <15% difference from Initial calibration
Matrix Spike (MS) (Accuracy audit)	Benzene	*39-150% Recovery
	Chlorobenzene	*55-135% "
	1,2-Dichlorobenzene	*37*154% "
	1,3-Dichlorobenzene	*50-141% "
	1,4-Dichlorobenzene	*42-143% "
	Methylbenzene	*32-160% "
	Toluene	*46-148% "
	m&p-Xylenes	*77-125% "
	o-Xylenes	*79-127% "
Matrix Spike Duplicate (MSD) (Precision audit)	Benzene	*15.4-24.6
	Chlorobenzene	*16.1-23.9
	1,2-Dichlorobenzene	*13.6-26.4
	1,3-Dichlorobenzene	*14.5-25.5
	1,4-Dichlorobenzene	*13.9-26.1
	Ethyl benzene	*12.6-27.4
	Toluene	*15.5-24.5
	m&p-Xylenes	
	o-Xylenes	
Completeness	all above units	>90%

*From 40 CFR Part 136, Appendix A, Method 602.

**Spiking level = 20 ug/l

MDL – Method Detection Limit
RPD – Relative Percent Difference
RF -- Response Factor

Controlled Document

22.2 EPA Method 608 Organochlorine Pesticides/PCB/s by GC

Quality Assurance Objectives

EPA Method 608 **Organochlorine Pesticides/PCB's by GC**

Audit	Parameter	Control Limit
Method Blank (Process)	all method analytes	<MDL
Solvent Blank	all method analytes	<MDL
Continuing Calibration Standard	all method analytes	RF <15% difference from initial calibration
Surrogate Standard Compound	Tetrachloro-m-xylene	24-160%
	Decachlorobiphenyl (DCB)	24-160%
Matrix Spike (MS)	Aldrin	42-122% Recovery
(% Recoveries)	a-BHC	37-134% "
(Accuracy audit)	b-BHC	17-147% "
	g-BHC (Lindane)	32-127% "
	Chlordane	45-119% "
	4,4'-DDD	31-141% "
	4,4'-DDE	30-145% "
	4,4'-DDT	25-160% "
	Dieldrin	36-146% "
	Endosulfan I	45-153% "
	Endosulfan II	D-202% "
	Endosulfan Sulfate	26-144% "
	Endrin	30-147% "
	Heptachlor	34-111% "
	Heptachlor epoxide	37-142% "
	Toxaphene	41-126% "
	PCB-1016	50-114% "
	PCB-1221	15-178% "
	PCB-1232	10-215% "
	PCB-1242	39-150% "
	PCB-1248	38-158% "
	PCB-1254	29-131% "
	PCB-1260	8-127% "

* From 40 CFR Part 136, Appendix A, Method 608.

MDL – Method Detection Limit
RPD – Relative Percent Difference
RF -- Response Factor

Controlled Document

22.2 EPA Method 608 Organochlorine Pesticides/PCB's by GC (continued)

Quality Assurance Objectives

EPA Method 608 **Organochlorine Pesticides/PCB's by GC**

Audit		Parameter	Control Limit
Matrix Spike Duplicate (MSD) (Precision audit)	**	Matrix spike compounds	<25% RPD
External QC Check Sample	**	Aldrin	1.08-2.24
		a-BHC	0.98-2.44
		b-BHC	0.78-2.60
		g-BHC (Lindane)	0.86-2.32
		Chlordane	27.6-54.3
		4,4'-DDD	4.8-12.6
		4,4'-DDE	1.08-2.60
		4,4'-DDT	4.6-13.7
		Dieldrin	1.15-2.49
		Endosulfan I	1.14-2.82
		Endosulfan II	2.2-17.1
		Endosulfan Sulfate	3.8-13.2
		Endrin	5.1-12.6
		Heptachlor	0.86-2.00
		Heptachlor epoxide	1.13-2.63
		Toxaphene	27.8-55.6
		PCB-1016	30.5-51.5
		PCB-1221	22.1-75.2
		PCB-1232	14.0-98.5
		PCB-1242	24.8-69.6
		PCB-1248	29.0-70.2
		PCB-1254	22.2-57.9
		PCB-1260	18.7-54.9
Laboratory Control Sample		External QC Check	External QC Check
Sample		Sample Analytes	Sample Limits
Completeness		All above audits	>90%

*From 40 CFR Part 136, Appendix A, Method 608.

** - Spiking levels = 2.0 ug/l
***-Spiking levels = 50 ug/l

MDL – Method Detection Limit
RPD - Relative Percent Difference
RF -- Response Factor

Controlled Document

22.3 EPA Method 624 Purgeables Organics by GCMS

Quality Assurance Objectives

EPA Method 624 **Purgeables Organics by GCMS**

Audit	Parameter	Control Limit
Bromofluorobenzene Check (GCMS tune)	BFB	Must pass EPA criteria
Method Blank (Process)	all method analytes	<MDL
Continuing Calibration Check Standard	CCC's	RF <20% difference from initial calibration
System Performance Check Compounds	SPCC's	Minimum of 0.300 (0.250 for Bromoform)
Matrix Spike (MS) (Accuracy audit)	Benzene	31-151% Recovery
	Bromodichloromethane	35-155% "
	Bromoform	45—169% "
	Bromomethane	D-242% "
	Carbon Tetrachloride	70-140% "
	Chlorobenzene	37-160% "
	2-Chloroethylvinyl Ether	D-305% "
	Chloroform	51-138% "
	Chloromethane	D-273% "
	Dibromochloromethane	53-149% "
	1,2-Dichlorobenzene	18-190% "
	1,3-Dichlorobenzene	59-156% "
	1,4-Dichlorobenzene	18-190% "
	1,1-Dichloroethane	59-155% "
	1,2-Dichloroethane	49-155% "
	1,1-Dichloroethene	D-234% "
	trans-1,2-Dichloroethene	54-156% "
	1,2-Dichloropropane	D-210% "
	cis-1,3-Dichloropropene	D-227% "
	trans-1,3-Dichloropropene	17-183% "

*From 40 CFR Part 136, Appendix A, Method 624.

MDL – Method Detection Limit
RPD – Relative Percent Difference
RF -- Response Factor

Spiking Level 20 ug/l

Controlled Document

22.3 EPA Method 624 Purgeables Organics by GCMS (continued)

Quality Assurance Objectives

EPA Method 624 **Purgeables Organics by GCMS**

Audit	Parameter	Control Limit*+	
Matrix Spike (MS) (Accuracy audit)	Ethyl Benzene	37-262%	"
	Methylene Chloride	D-221%	"
	1,1,2,2-Tetrachloroethane	46-157%	"
	Tetrachloroethene	64-148%	"
	Toluene	47-150%	"
	1,1,1-Trichloroethane	52-162%	"
	1,1,2-Trichloroethane	52-150%	"
	Trichloroethene	71-157%	"
	Trichlorofluoromethane	17-181%	"
	Vinyl Chloride	D-251%	"
Matrix Spike Duplicates (MSD) (Precision audit)	Matrix Spike Compounds	<25% RPD	
External QC Check Sample	Benzene	15.2-25.0	
	Bromodichloromethane	10.1-28.0	
	Bromoform	11.4-31.1	
	Bromomethane	D-41.2	
	Carbon Tetrachloride	17.2-23.5	
	Chlorobenzene	16.4-27.4	
	2-Chloroethylvinyl Ether	D-50.4	
	Chloroform	13.7-24.2	
	Chloromethane	D-45.9	
	Dibromochloromethane	13.8-26.6	
	1,2-Dichlorobenzene	11.8-34.7	
	1,3-Dichlorobenzene	17.0-28.8	
	1,4-Dichlorobenzene	11.8-34.1	
	1,1-Dichloroethane	14.2-28.4	
	1,2-Dichloroethane	14.3-27.4	
	1,1-Dichloroethene	3.7-42.4	
	trans-1,2-Dichloroethene	13.6-28.4	
	1,2-Dichloropropane	3.8-36.2	
	cis-1,3-Dichloropropene	1.0-39.0	
	trans-1,3-Dichloropropene	7.6-32.4	

*From 40 CFR Part 136, Appendix A, Method 624.

MDL - Method Detection Limit
RPD - Relative Percent Difference
RF - Response Factor
Spiking Level 20 ug/l

Controlled Document

22.3 EPA Method 624 Purgeables Organics by GCMS (continued)

Quality Assurance Objectives

EPA Method 624 **Purgeables Organics by GCMS**

Audit	Parameter	Control Limit*+
External QC Check Sample (cont)	Ethyl Benzene	17.4-26.7
	Methylene Chloride	D-41.0
	1,1,2,2-Tetrachloroethane	13.5-27.2
	Tetrachloroethene	17.0-26.6
	Toluene	16.6-26.7
	1,1,1-Trichloroethane	13.7-30.1
	1,1,2-Trichloroethane	14.3-27.1
	Trichloroethene	18.5-27.6
	Trichlorofluoromethane	8.9-31.5
	Vinyl Chloride	D-43.5
External Completeness	All above audits	>90%

*From 40 CFR Part 136, Appendix A, Method 624.

MDL -- Method Detection Limit
RPD -- Relative Percent Difference
RF -- Response Factor

Spiking Level 20 ug/l

Controlled Document

22.4 EPA Method 625 Semi-Volatile Organics by GCMS

Quality Assurance Objectives

EPA Method 625 **Semi-volatile Organics by GCMS**

Audit	Parameter	Control Limit*+
Decafluorotriphenylphosphine Check (GCMS Tune)	DFTPP	Must pass EPA criteria
Continuing Calibration Check Std	CCC's	RF <20% RSD from initial calibration
System performance check compounds	SPCC's	Minimum RF of 0.500
Method Blank (Process)	All method analytes	MDL
Matrix Spike (MS) (% Recoveries) (Accuracy audit)	Acenaphthene	47-145%
	Acenaphthylene	33-145%
	Anthracene	27-133%
	Benzo(a)anthracene	33-143%
	Benzo(b)fluoranthene	24-159%
	Benzo(k)fluoranthene	11-162%
	Benzo(a)pyrene	17-163%
	Benzo(ghi)perylene	D-219%
	Benzyl butyl phthalate	D-152%
	Bis(2-chloroethyl)ether	12-158%
	Bis(2-chloroethoxy)-methane	33-184%
	Bis(2-chloroisopropyl)-ether	36-166%
	Bis(2-chlorohexyl)-phthalate	8-158%
	4-Bromophenyl phenyl ether	53-127%
	2-Chloronapthalene	60-118%
	4-Chlorophenyl phenyl ether	25-158%
	Chrysene	17-168%
	Dibenzo(a,h)anthracene	D-227%

*From 40 CFR Part 136, Appendix A, Method 625.

MDL - Method Detection Limit
RPD - Relative Percent Difference
RF - Response Factor

Controlled Document

22.4 EPA Method 625 Semi-Volatile Organics by GCMS (continued)

Quality Assurance Objectives

EPA Method 625 **Semi-volatile Organics by GCMS**

Audit	Parameter	Control Limit*+
Matrix Spike (MS)	Di-n-butyl phthalate	1-118%
(% Recoveries)	1,2-Dichlorobenzene	32-129%
(Accuracy audit)	1,3-Dichlorobenzene	D-172%
(Cont)	1,4-Dichlorobenzene	20-124%
	3,3'Dichlorobenzidine	D-262%
	Diethyl phthalate	D-114%
	Dimethyl phthalate	D-112%
	2,4-Dinitrotoluene	39-139%
	2,6-Dinitrotoluene	50-158%
	Di-n-octylphthalate	4-146%
	Fluoranthene	26-137%
	Fluorene	59-121%
	Hexachlorobenzene	D-152%
	Hexachlorobutadiene	24-116%
	Hexachloroethane	40-113%
	Indeno(1,2,3-cd)pyrene	D-171%
	Isophorone	21-196%
	Naphthalene	21-133%
	Nitrobenzene	35-180%
	N-Nitrosodi-n-propylamine	D-230%
	Phenanthrene	54-120%
	Pyrene	52-115%
	1,2,4-Trichlorobenzene	44-142%
	4-Chloro-3-methylphenol	22-147%
	2-Chlorophenol	23-134%
	2,4-Dichlorophenol	39-135%
	2,4-Dimethylphenol	32-119%
	2,4-Dinitrophenol	D-191%
	2-Methyl-4,6-dinitrophenol	D-181%
	2-Nitrophenol	29-182%
	4-Nitrophenol	D-132%
	Pentachlorophenol	14-176%
	Phenol	5-112%
	2,4,6-Trichlorophenol	37-144%

*From 40 CFR Part 136, Appendix A, Method 625.

**Spiking level = 50ug/l for BN; 100ug/l for Phenolics.

MDL - Method Detection Limit
RPD - Relative Percent Difference
RF - Response Factor

Controlled Document

22.4 EPA Method 625 Semi-Volatile Organics by GCMS (continued)

Quality Assurance Objectives

EPA Method 625 **Semi-volatile Organics by GCMS**

Audit	Parameter	Control Limit*+
Matrix Spike Duplicates (MSD) (Precision audit)	Matrix Spike Compounds	<25% RPD
External QC Check Sample	** Acenaphthene	60.1-132.3
	** Acenaphthylene	53.5-126.0
	** Anthracene	43.4-118.0
	** Benzo(a)anthracene	41.8-133.0
	** Benzo(b)fluoranthene	42.0-140.4
	** Benzo(k)fluoranthene	25.2-145.7
	** Benzo(a)pyrene	31.7-148.0
	** Benzo(ghi)perylene	D-195.0
	** Benzyl butyl phthalate	D-139.9
	** Bis(2-chloroethyl)ether	42.9-126.0
	** Bis(2-chloroethoxy)-methane	49.2-164.7
	** Bis(2-chloroisopropyl)-ether	62.8-138.6
	** Bis(2-chlorohexyl)-phthalate	28.9-136.8
	** 4-Bromophenyl phenyl ether	64.9-114.4
	** 2-Chloronapthalene	64.5-113.5
	** 4-Chlorophenyl phenyl ether	38.4-144.7
	** Chrysene	44.1-139.9
	** Dibenzo(a,h)anthracene	D-199.7
	** Di-n-butyl phthalate	8.4-111.0
	** 1,2-Dichlorobenzene	48.6-112.0
	** 1,3-Dichlorobenzene	16.7-153.9
	** 1,4-Dichlorobenzene	37.3-105.7
	** 3,3'Dichlorobenzidine	8.2-212.5
	** Diethyl phthalate	D-100.0
	** Dimethyl phthalate	D-100.0
	** 2,4-Dinitrotoluene	47.5-126.9

* From 40 CFR Part 136, Appendix A, Method 625.

**Spiking level = 50 ug/L for BN 100 ug/L for phenolics.

MDL - Method Detection Limit
RPD - Relative Percent Difference
RF - Response Factor

Controlled Document

22.4 EPA Method 625 Semi-Volatile Organics by GCMS (continued)

Quality Assurance Objectives

EPA Method 625 **Semi-volatile Organics by GCMS**

Audit		Parameter	Control Limit*+
External QC Check Sample (cont)	**	2.6-Dinitrotoluene	68.1-136.7
		** Di-n-octylphthalate	18.6-131.8
		** Fluoranthene	42.9-121.3
		** Fluorene	71.6-108.4
		** Hexachlorobenzene	7.8-141.5
		** Hexachlorobutadiene	37.8-102.2
		** Hexachloroethane	55.2-100.0
		** Indeno(1,2,3-cd)pyrene	D-150.9
		** Isophorone	46.6-180.2
		** Naphthalene	35.6-119.6
		** Nitrobenzene	54.3-157.6
		** N-Nitrosodi-n-propylamine	13.6-197.9
		** Phenanthrene	65.2-108.7
		** Pyrene	69.6-100.0
		** 1,2,4-Trichlorobenzene	57.3-129.2
		** 4-Chloro-3-methylphenol	40.8-127.9
		** 2-Chlorophenol	36.2-120.4
		** 2,4-Dichlorophenol	52.4-121.7
		** 2,4-Dimethylphenol	41.8-109.0
		** 2,4-Dinitrophenol	D-172.9
		** 2-Methyl-4,6-dinitrophenol	53.0-100.0
		** 2-Nitrophenol	45.0-166.7
		** 4-Nitrophenol	13.0-106.5
		** Pentachlorophenol	38.1-151.8
		** Phenol	16.6-100.0
		** 2,4,6-Trichlorophenol	52.4-129.2

Laboratory Control Sample Sample	External QC Check Sample Analytes	External QC Check Sample Limits
Completeness	All above audits	>90%

* From 40 CFR Part 136, Appendix A, Method 625.

** Spiking level = 50 ug/l for BN 100ug/L for phenolics.

MDL - Method Detection Limit
RPD - Relative Percent Difference
RF - Response Factor

Controlled Document

22.5 EPA Method 602 Purgeable Aromatics by GC

Quality Assurance Objectives

EPA Method 602 **Purgeable Aromatics by GC**

Audit	Frequency
Method Blank (Process)	One per 12 hours of analysis.
Continuing Calibration Standard	One per 12 hours of analysis.
Surrogate Standard	Added to each sample, blank and standard.
Matrix spike (MS)* (Precision Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
Matrix Spike Duplicate (MSD)* (Accuracy Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
External QC Check Sample	One per 12 hours of analysis, after the continuing calibration standard.
Laboratory Control Sample	One set per 20 samples per matrix or one set per matrix per matrix per preparation date, whichever is more frequent. This sample is only to be run if the MS or MSD is out of limit.
Holding Blank	One per week.

* MS and MSD are a set of audits to be performed on the same sample.

Controlled Document

22.6 EPA Method 608 Organochlorine Pesticides/PCB's by GC

EPA Method 608 **Organochlorine Pesticides/PCB's by GC**

Audit	Frequency
Method Blank (Process)	one per 20 samples per matrix or one per extraction date, Whichever is more frequent.
Solvent Blank	One per lot of solvent reagent.
Continuing Calibration Standard Check (Individual/Evaluation Standard Mixes)	One per every 20 samples.
Surrogate Standard	Added to each sample, blank and standard.
Matrix Spike (MS)* (Precision Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
Matrix Spike Duplicate (MSD)* (Accuracy Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
External QC Check Sample	One per 12 hours of analysis, after the continuing calibration standard.
Laboratory Control Sample	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent. This sample is only to be run if the MS or MSD is out of limit.

* MS and MSD are a set of audits to be performed on the same sample.

Controlled Document

22.7 EPA Method 624 Purgeable Organics by GCMS

Quality Assurance Objectives

EPA Method 624 **Purgeable Organics by GCMS**

Audit	Frequency
GC/MS Tune	Once every 12 hours of analysis, at the beginning of the 12 hours.
Method Blank (Process)	One per 12 hours of analysis.
Continuing Calibration Standard	One per 12 hours of analysis.
Surrogate Standard	Added to each sample, blank and standard
Matrix Spike (MS)* (Precision Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
Matrix Spike Duplicate (MSD)* (Accuracy Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
External QC Check Sample	One per 12 hours of analysis, after the continuing calibration standard.
Laboratory Control Sample	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent. This sample is only to be run if the MS or MSD is out of limit.

* MS and MSD are a set of audits to be performed on the same sample.

Controlled Document

22.8 EPA Method 625 Semi Volatile Organics by GCMS

Quality Assurance Objectives

EPA Method 625 **Semi-Volatile Organics by GCMS**

Audit	Frequency
GC/MS Tune	Once every 12 hours of analysis, at the beginning of the 12 hours.
Method Blank (Process)	One per 20 samples per matrix or one per extraction date, whichever is more frequent.
Continuing Calibration Standard	One per 12 hours of analysis.
Surrogate Standard	Added to each sample, blank and standard
Matrix Spike (MS)* (Precision Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
Matrix Spike Duplicate (MSD)* (Accuracy Audit)	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent.
External QC Check Sample	One per 12 hours of analysis, after the continuing calibration standard
Laboratory Control Sample	One set per 20 samples per matrix or one set per matrix per preparation date, whichever is more frequent. This sample is only to be run if the MS or MSD is out of limit.

- MS and MSD are a set of audits to be performed on the same sample.

Controlled Document

This page left intentionally blank.

Controlled Document

22.9 Quality Assurance Objectives for Inorganics

PARAMETER	METHOD (Prep)	ACCURACY (% Rec)	PRECISION (% RPD)	MDL (mg/L)	RL (mg/L)
Acidity	305.1/2310-B	80-120	0-30	0.40	10
	305.2	80-120	0-30	0.40	10
Alkalinity, total, as CaCO	310.1/2320-B	80-120	0-30	1.0	1.0
Ammonia (as n)	350.1	85-115	0-30	0.017	0.1
	350.2	85-115	0-30	0.0099	0.1
	350.3	85-115	0-30	0.034	0.1
	4500NH3-F	80-120	0-30	0.034	0.1
	4500NH3-H	80-120	0-30	0.017	0.1
Bicarbonate, as CaCO	4500-CO2-D	NA	NA	NA	1.0
BOD-5	405.1/5210-B	85-115	0-30	NA	2.0
Bromate	300.0	90-110	0-30	0.16	1.0
Bromide	300.0	90-110	0-30	0.055	0.5
	9056/4500-Br-C	80-120	0-30	0.055	0.5
	320.1	75-125	0-30	0.50	5.0
Carbon, total organic	415.1/9060/5310-B	80-120	0-25	0.25	1.0
	415.1/5310-C	80-120	0-25	0.27	1.0
Carbon dioxide	4500-CO2-C	80-120	0-30	0.40	10
	4500-CO2-D	NA	NA	NA	10
Carbonate, as CaCO	4500-CO2-D	NA	NA	NA	1.0
Chloride	300.0	90-110	0-30	0.12	1.0
	4110B	80-120	0-30	0.10	0.10
	325.3/9252A	75-125	0-30	0.40	1.0
	4500-Cl-C	75-125	0-30	0.40	1.0
	4500-Cl-D	80-120	0-30	0.40	1.0
	4500-Cl-E	85-115	0-30	0.29	1.0
Chlorite	300.0	90-110	0-30	0.097	1.0
Chlorophyll	10200-H	NA	0-30	NA	0.00010
COD	410.2	60-140	0-30	5.0	20
	5220-D	60-140	0-30	13	20
Coliform, fecal, MPN	9221-E, C(non-potable)	NA	0-200	NA	2 MPN/100 mL.
	9221-E, C (potable)	NA	0-200	NA	1.1 MPN/100 mL

Coliform, fecal, MF	9222-D	NA	0-200	NA	1 col/100 mL
PARAMETER	**METHOD (Prep)**	**ACCURACY (% Rec)**	**PRECISION (% RPD)**	**MDL (mg/L)**	**RL (mg/L)**
Coliform, total, MPN	9131	NA	0-200	NA	2 MPN/100 mL
	9221-B, C (non-potable)	NA	0-200	NA	2 MPN/100 mL
	9221-B, C (potable)	NA	0-200	NA	1.1 MPN/100 mL
Coliform, total MF	9132	NA	0-200	NA	1 col/100 mL
	9222-B	NA	0-200	NA	1 col/100 mL
Coliform, total/e.coli (fecal), MMO MUG	9223/Colilert (potable)	NA	NA	NA	NA
Coliform, total, P-A	9221-D, B	NA	NA	NA	NA
Color	110.2/2120-B /ASTM 156	NA	0-40	1 PCU	1 PCU
Corrosivity	2330-B	NA	NA	NA	NA
	1110 (NACE)	NA	NA	NA	NA
	9040/9041	63-158	0-40	NA	NA
Cyanide, amenable to chlorination	9012	NA	NA	NA	0.010
	335.1 4500CN-G	NA	NA	NA	0.010
Cyanide, reactive	7.3.3.2/9014	NA	0-50	NA	10 mg HCN/Kg Waste
Cyanide, total	335.2/4500CN-E	85-115	0-20	0.0034	0.010
Cyanide, weak and dissociable	4500-CN-I	85-115	0-30	0.01	0.010
Formate	300.0	90-110	0-30	0.062	1.0
Fluoride	340.2/4500-F-C (undistilled)	85-115	0-30	0.10	0.10
Halogens, total organic (TOX)	450.1/5320-B	60-140	0-40	0.0066	0.010
Hardness, total (as CaCO3)	2340-B (200.7/6010)	NA	NA	NA	3.3
	130.2/2340-C	75-125	0-30	0.40	10
Hydrogen ion (pH)	150.1/9040/4500-H-B	63-158	0-40	NA	NA
Iodide	300.0	90-110	0-30	NA	5.0
Nitrate (as N)	4110B	90-110	0-30	0.0060	0.10

PARAMETER	METHOD (Prep)	ACCURACY (% Rec)	PRECISION (% RPD)	MDL (mg/L)	RL (mg/L)
Nitrate-Nitrite (as N)	353.2/4500-NO3-F	80-120	0-30	0.0040	0.050
	4110B	80-120	0-30	0.10	0.10
Nitrite (as N)	354.1	90-110	0-30	0.044	0.10
Nitrogen, total Kjeldahl (TKN)	351.3	75-125	0-40	0.068	0.10
Nitrogen, organic	EPA-CE: 3-205	NA	NA	NA	0.20
	TKN-NH3 (as N)	NA	NA	0.10	0.10
Nitrogen, total	TKN + NO /NO as (N)	NA	NA	0.10	0.10
Odor	140.1/2150-B	NA	NA	NA	1 TON
Oil & Grease	1664 (HEM)	79-114	0-18	0.91	5.0
Orthophosphate (as P)	300.0	90-110	0-30	0.071	1.0
	365.3	75-125	0-30	0.013	0.050
	4500-P-F	80-120	0-30	0.027	0.050
Oxygen, dissolved	360.1/4500-0-G	NA	0-30	NA	0.10
	360.2/4500-0-C	NA	0-30	NA	0.10
Petroleum hydrocarbons	418.1	60-140	0-30	0.56	1.0
	1664 (SGT-HEM)	66-114	0-24	1.6	5.0
Phenolics	420.1/9065/5330-D.B.	75-125	0-30	0.0060	0.050
	420.1/9056/5530-C.B. (chloroform extraction)	75-125	0-30	0.010	0.010
Phosphorus, organic (as P)					
	365.3	60-140	0-40	0.025	0.050
	365.4/4500-P-F	60-140	0-40	0.098	0.10
Plate count, Heterotrophic	9215B	NA	NA	NA	1000 CFU/L
Redux potential	D1498-76/2580-B	NA	NA	NA	NA
Residue, dissolved	160.1/2540-C	80-120	0-25	NA	5.0
Residue, suspended	160.2/2540-D	80-120	0-25	NA	5.0
Residue, total	160.3/2540-B	80-120	0-25	NA	5.0
Residue, volatile	160.4/2540-E	NA	0-80	NA	5.0

Salinity	2520-B	NA	NA	NA	2 parts per thousand
Settleable matter	160.5/2540-F	NA	NA	NA	0.20 mL
PARAMETER	**METHOD (Prep)**	**ACCURACY (% Rec)**	**PRECISION (% RPD)**	**MDL (mg/L)**	**RL (mg/L)**
Silica, dissolved	370.1	75-125	0-30	2.5	10
Specific conductance	120.2/9050.2510-B	90-110	0-10	NA	1.0 S/cm
Specific gravity	2710-F	NA	NA	NA	NA
Streptococcus, fecal, MPN	9230*B	NA	0-200	NA	2 MPN/100 mL
Streptococcus, fecal, MF	9230-C	NA	0-200	NA	1 col/100 mL
Sulfate	300.0	90-110	0-30	0.29	5.0
	4110B	80-120	0-30	0.29	5.0
	375.3/4500-S04-D	75-125	0-30	1.2	5.0
Sulfide	376.1/4500-S-E (undistilled)	75-125	0-30	0.40	1.0
	376.2/4500-S-D (undistilled)	80-120	0-25	0.017	0.10
	9030/9034 (distilled)	50-150	0-50	0.36	1.0
Sulfide, reactive	7.3.4.2/9034	NA	NA	NA	50 mg H S/Kg Waste
Sulfite	377.1/4500-S02-B	70-130	0-30	2.0	5.0
Surfactants (MBAS)	425.1/5540-C	70-130	0-30	0.013	0.10
Surfactants (CTAS)	5540-D	70-130	0-30	0.25	1.0
Tannin and Lignin	5550-B	70-130	0-30	0.010	0.010
Temperature	170.1/2550-B	NA	NA	NA	NA
Thiocyanate	4500-CN-M	80-120	0-25	0.021	0.10
Turbidity	180.1/2130-B	90-110	0-30	0.10 NTU	0.10 NTU

22.10 ADDENDUM A –Manual for the Certification of Laboratories Analyzing Drinking Water

22.10.1 The Manual in its entirety is included as an addendum and shall accompany the QA Manual and apply when drinking water analyses are processed. Relevant and pertinent information from this document shall be applied when analyzing drinking water samples.

Controlled Document

EXHIBIT C-2
SAMPLE CONTAINER LABEL

6500 Sunplex Drive
Ocean Springs, MS 39564
228-865-4400

PROJECT NAME:		
SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:
SAMPLE BY:	PRESERVATIVE:	

EXHIBIT C-3
CHAIN-OF-CUSTODY RECORD

Micro-Methods Lab, Inc. 6500 Sunplex Drive, Ocean Springs, MS 39564 Ph: 228-875-6420 • Fax: 228-875-6423	**Chain of Custody / Analysis Request Form** **Print ALL Information. Put N/A in blanks not applicable**	Field pH: Tech: Time: Field Temperature: Iced: Yes No Sample Receipt Temperature:

REPORT RESULTS TO:	SEND INVOICE TO:	TURNAROUND TIME
Name:	Name: PO#:	Date Results needed by: _____
Company	Company	Standard turnaround time is 10 working days ☐
Address	Address	The following turnaround times require lab approval:
City	City	☐ 7-10 days ☐ 72 Hrs ☐ 48 Hrs
State ZIP	State ZIP	☐ 24 Hrs Approved by
TEL: FAX:	TEL: FAX:	
Sampled by: (Signature) (Print)	Project Name: _____	Date of Sample Shipment: _____

Failure to complete shaded areas will hinder processing of samples.

	For Lab Use Only Sample Number	Station Location / Sample ID	DATE	TIME	Sampling COMP	Sampling GRAB	List Test Needed											# CONTAINERS
1.																		
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

Released By Signature	Date & Time Released	Received By Signature	Date & Time Received	Please indicate reporting requirements:
Printed Name		Printed Name		☐ 1. Results Only (EPA Level I)
Released By Signature	Date & Time Released	Received By Signature	Date & Time Received	☐ 2. Results & QC (EPA Level I)
Printed Name		Printed Name		☐ 3. Results, QC and Raw Data (EPA Level III)

ATTACHMENT D

FLOOD PROTECTION

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

File 86C5076

Made by RAS Date 5-12-86

FOR Flood Protection

Checked by DSM Date 4/26/86

Scope: Identify whether the facility is located within a 100 year floodplain. Determine the maximum wave height generated in Three Mile Creek. Determine a flood protection scheme, if required, to withstand washout from a 100-year flood.

Given:

Crown Zellerbachs entire Mobile facility is located within the 100 year floodplain as shown on the Federal Insurance Administration (FIA) Flood map, Community Panel Number 015057 0002 B. The property is zoned A2 and the 100 year flood elevation is 12 feet Mean Sea Level (MSL

Ref: RCRA EPA ID # ALD 057226907
270.14(b)(11)((c)(c))

Assumptions:

1. The average fetch distance is approximately 500 feet from due south of the site
2. The maximum fetch distance is approximately 1000 feet from the southeast and southwest quadrant.
3. Assume maximum wind velocity of 100 mph during a hurricane.
4. Assume mean high water in Three Mile Creek is +1' MSL.
5. Assume average ground surface elevation is +4' MSL.

FOR Flood Protection

Solution:

Estimate the maximum design elevation for slope protection.

Max Elev. = Mean high water + wind set-up + swash height

Note: There is a major obstruction across the creek & the southeast which will restrict the development of waves to the estimated height. The presence of the train embankment, and piers in the channel will disrupt normal wave generation.

Design wave heights can only be approximated for fetch distances less than 1 mile.

Wave height = 2.0 feet Ref: Design of Small Dams page 272.

Wave height = 2.0 feet for constant depth = 5'

= 2.5 feet for constant depth = 10'

Ref: Corp of Engineer Shore Manual see sheet 3

Wave height: Molitor formulas

$$H = 0.17\sqrt{VF} + 2.5 - \sqrt[4]{F}$$

V = wind velocity, mph
F = fetch (nmi) assume $F = 0.2$

$$H = 0.17\sqrt{100\,(0.2)} + 2.5 - \sqrt[4]{0.2} = 2.6 \text{ feet}$$

Ref: NAVFAC DM-

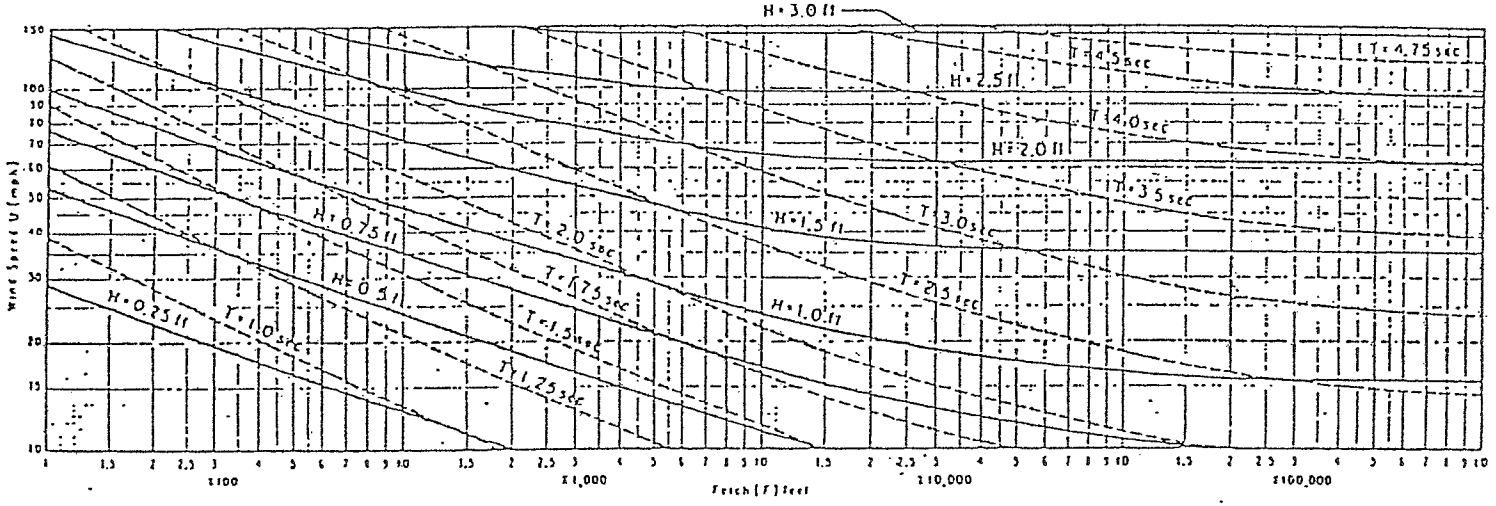


Figure 3-23. Forecasting Curves for Shallow-Water Waves. Constant Depth = 5 feet.

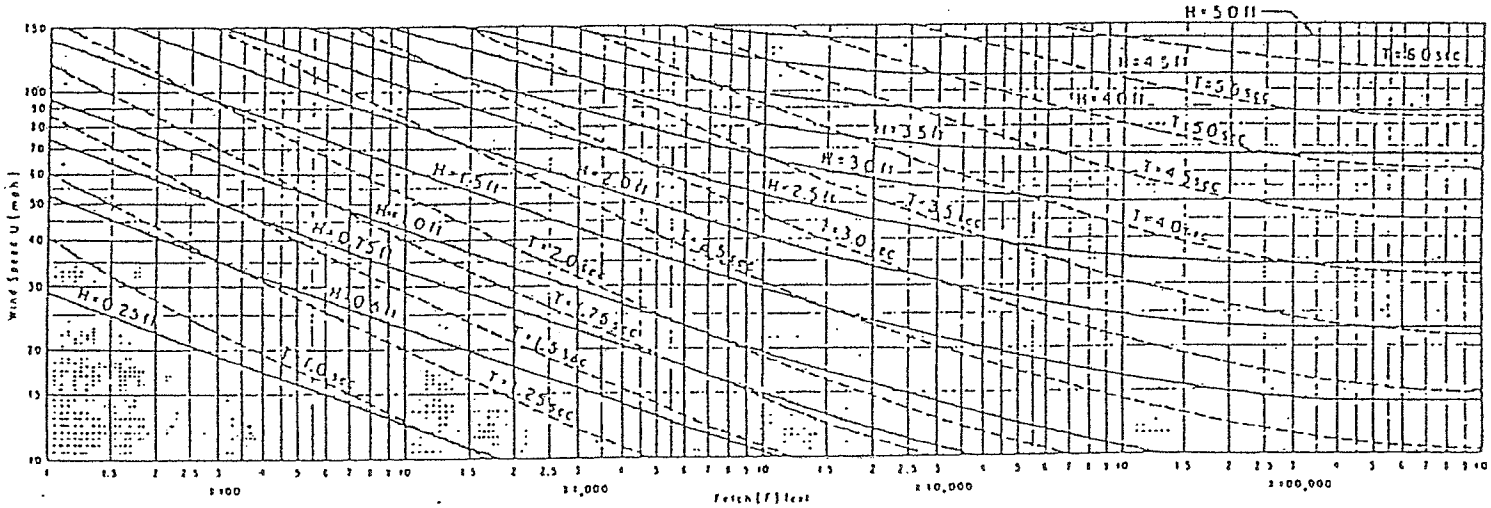


Figure 3-24. Forecasting Curves for Shallow-Water Waves. Constant Depth = 10 feet.

Avg wave height = $\frac{3.0 + 2.0 + 2.5 + 2.6}{4} \cong 2.5'$

Wind setup

$$S = 0.158 \times 10^{-3} \left(V^2 \frac{F}{D}\right) \cos\theta$$

V = wind velocity, mph

F = effective fetch = ≅ 0.2 1 nautical = 1.151 statute

D = water depth = 5' assumed

θ = 1

$$S = 0.00158 \left(100^2 \left(\frac{0.2}{5}\right)\right)(1) = 0.032 \text{ ft}$$

Swell Height

Swell height = $0.17 H^{\frac{5}{4}}$

H = 2.5'

Total height = 2.5 + 0.2 + 1.75(2.5) = 7.1'

The total wave height is above mean high water El +1'. The wave height elevation does not include tidal or storm surge.

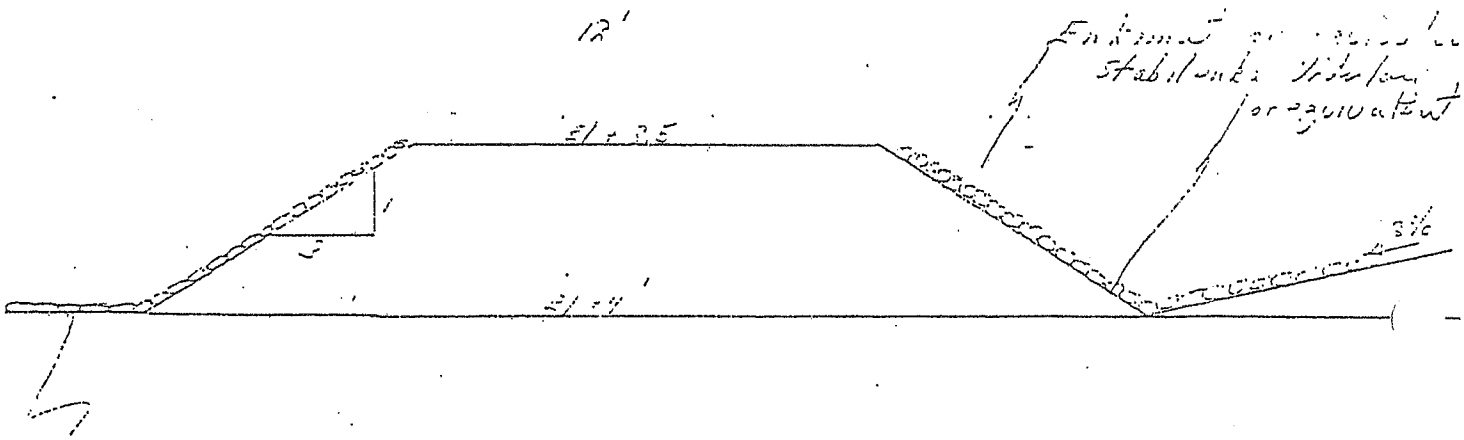
Assume a MHW level +1' the Top of wave action is +1 + 7.1' = El +8.1'

Assuming the soil ground surface elevation is +4 a dike would have to be 8.1' - 4 = 4.1' feet above existing grade to protect from wave height only.

Note the flood level remains at El +12'

FOR Flood Protection

Wave protection can be incorporated into the proposed perimeter access road by increasing its height and protecting the slope. It is anticipated with the presence of wood fill and peat beneath the cell that significant total and differential settlements may occur along the access road. Since settlements are anticipated it is recommended that the rip-rap for slope protection be flexible in nature.



References

1. RCRA Permit Application, EPA ID # ALD 057226801 Mobile, Alabama, April, 1985.

2. Design of Small Dams, Water Resources Technical Publication, 1977

3. Shore Manual, Department of the Army, Corps of Engineers, 1977.

4. Harbor and Coastal Facilities, Design Manual, Department of the Navy, NAVFAC DM-26, 1968

5. Construction and Geotechnical Engineering Using Synthetic Fabrics, R. M. Koerner and J. P. Welsh, 1980.

ATTACHMENT E

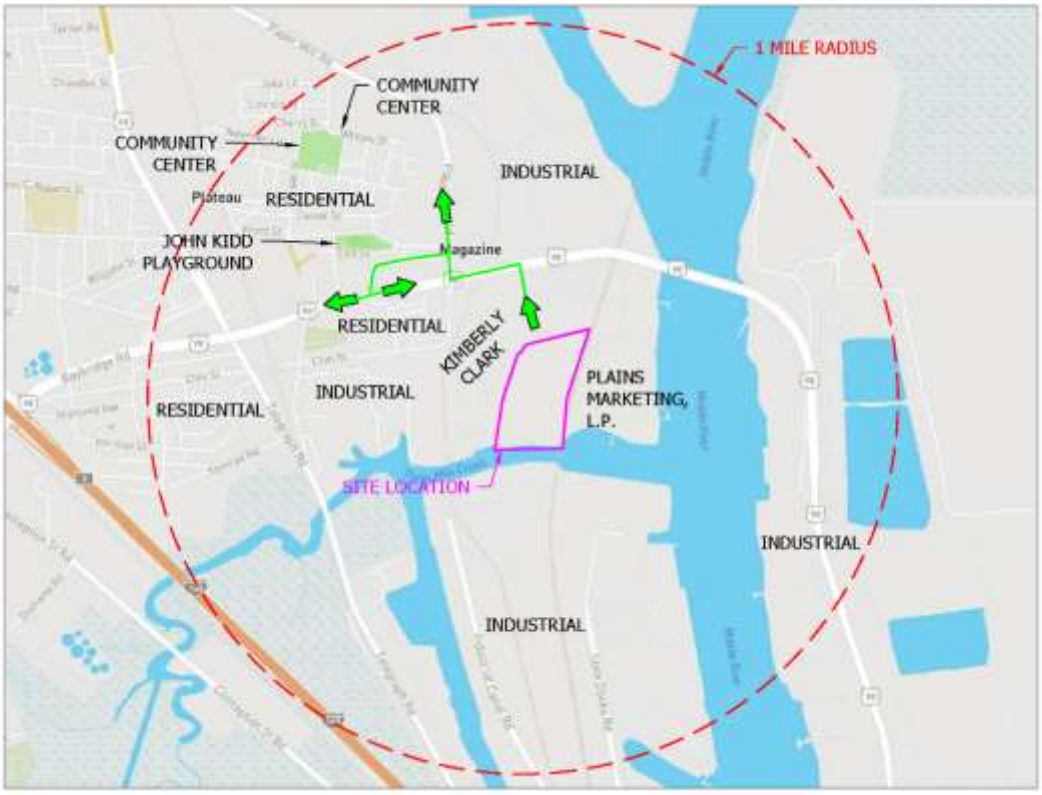
CONTINGENCY PLAN

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

For emergency assistance ate the site, please contact one of the following coordinators:

FACILITY EMERGENCY COORDINATORS (40 CFR 262.262(B)(8))				
ROLE	**NAME**	**OFFICE #**	**MOBILE #**	**E-MAIL**
Environmental Manager	Ethan E. Allen	(601) 544-3674	(601) 596-5564	eallen@env-mgt.com
On—Site Emergency Coordinator	Jeff Gonsoulin	(251) 456-3477	(228) 697-2879	jgonsoulin@env-mgt.com
Secondary Emergency Coordinator	Chris Johnson	(601) 544-3674	(601) 441-6436	cjohnson@env-mgt.com

ONE MILE RADIUS STREET MAP OF FACILITY AND SURROUNDING AREAS (40 CFR 262.262(b)(5))



DIRECTIONS TO THE MAIN GATE AT THE FACILITY (40 CFR 262.262(B)(5))				
FACILITY ADDRESS	**FROM THE NORTHWEST**	**FROM THE NORTHEAST**	**FROM THE SOUTHWEST**	**FROM THE SOUTHEAST**
1850 Herbert Street Mobile, LA 36610	- From I-65S, at Exit 9 head right on ramp for I-165S toward Downtown Mobile/Pritchard - 2.1 mi. At Exit 2, head right on the ramp for I-10 East Toward Bay Bridge Rd/US90 - Turn left onto US-90/Bay Bridge Rd toward State Docks - 1.1 miles bear right toward Chin St - 0.1 mi. keep left to get on Chin St. - 200' bear left onto Africatown Blvd. - 0.2 mi. Turn right onto Herbert St. (Kimberley Clark facility) - Continue straight through guard shack - Arrive at CFI-Mobile Facility	- From I-65N, at Exit 9 head right on ramp for I-165S toward Downtown Mobile/Pritchard - 1.9 mi. At Exit 2, head right on the ramp for I-10 East Toward Bay Bridge Rd/US90 - Turn left onto US-90/Bay Bridge Rd toward State Docks - 1.1 miles bear right toward Chin St - 0.1 mi. keep left to get on Chin St. - 200' bear left onto Africatown Blvd. - 0.2 mi. Turn right onto Herbert St. (Kimberley Clark facility) - Continue straight through guard shack - Arrive at CFI-Mobile Facility	- From I-10 E, at Exit 26B, head right on the ramp for US-90/US-98 toward State Docks/Prichard - Road name changes to N Water St. - Road name changes to I-165N - At Exit 2 head right on the ramp for US-90 toward Africatown Blvd/Dr. M L King Jr Dr. - Turn right onto US-90 E Alt/Bay Bridge Rd. - 1.1 miles bear right toward Chin St - 0.1 mi. keep left to get on Chin St. - 200' bear left onto Africatown Blvd. - 0.2 mi. Turn right onto Herbert St. (Kimberley Clark facility) - Continue straight through guard shack - Arrive at CFI-Mobile Facility	- From I-10 W, at Exit 27, head right on the ramp for US-90/US-98 toward State Docks/Prichard - Turn right onto US-90 W Alt/AL-13/Cochrane Causeway toward State Docks/Pritchard - 3.9 mi., Cross Bay Bridge, turn right onto Tin Top Rd. - Turn right onto Paper Mill Rd. - Turn left onto Africatown Blvd. - 0.2 mi. Turn right onto Herbert St. (Kimberley Clark facility) - Continue straight through guard shack - Arrive at CFI-Mobile Facility

* All routes can accommodate a 53-foot trailer.

The following hazardous waste may be present at the site:

Hazardous Waste[1] (40 CFR 262.262(b)(1), (2) & (3))					
Hazardous Code (& Map ID)	**Hazards[2]**	**Location Accumulated[3]**	**Maximum Amounts Present**	**Response Notes**	**Special Notes to Treatment Personnel**
K001, F032, F034 (A)	Toxic	Southern portion of property in the Water Treatment Area.	140,640 gallons	Use PPE to prevent skin/eye contact, inhalation and ingestion.	Product is a metabolic stimulant. **Eye**-remove contact lenses, immediately flush w/ water for 15 min. **Skin**-wash w/ soap & water. **Inhalation**-remove to fresh air, artificial respiration if not breathing, give oxygen if breathing is difficult. Get medical attention immediately. **Ingestion**-induce vomiting only by medical personnel. Call physician immediately.
50% Caustic (B)	Corrosive	Southern portion of property in the Water Treatment Area.	55 gallons	Use PPE to prevent skin/eye contact, inhalation and ingestion.	**Eye**-remove contact lenses, immediately flush w/ water for 15 min. **Skin**-wash w/ soap & water. **Inhalation**-remove to fresh air, artificial respiration if not breathing, give oxygen if breathing is difficult. Get medical attention immediately. **Ingestion**-induce vomiting only by medical personnel. Call physician immediately.

1. The quantity and type of hazardous waste may vary due to remedial activity.
2. Toxic, Corrosive, Reactive, Ignitable or combination of these.
3. Numbered locations are provided on the following maps. Location Caustic 55-gallon drum is subject to change.

MAP OF HAZARDOUS WASTE STORAGE LOCATIONS & EMERGENCY EQUIPMENT (40 CFR 262.262(b)(4)&(6))

EMERGENCY EQUIPMENT & ALARM SYSTEMS (40 CFR 262.262(b)(6) & (7))		
SYSTEM & (MAP ID)	**TYPE**	**LOCATION(S)**
FIRE EXTINGUISHERS (FE)	MINIMUM CLASS A.	OFFICE, WATER TREATMENT UNIT
SPILL KITS (SK)	ABSORBENT PADS/MATERIAL, PPE, ETC.	WATER TREATMENT UNIT
ALARM SYSTEM (AS)	HIGH-WATER SHUT-OFF SYSTEM	WATER TREATMENT UNIT

JEFF GONSOULIN — EMERGENCY COORDINATOR
(HOME) 9612 MEADOW ST. VANCLEAVE, MS 36565 ..... (228) 665-9290
(WORK) ENVIRONMENTAL MANAGEMENT SERVICES, INC., MOBILE, AL ..... (251) 456-3477

ETHAN E. ALLEN, PG, EMS — ENVIRONMENTAL MANAGER
(HOME) 102 DARBY RD., HATTIESBURG, MS 39402 ..... (601) 596-5564
(WORK) ENVIRONMENTAL MANAGEMENT SERVICES, INC., HATTIESBURG, MS ..... (601) 596-3674

CHRIS JOHNSON, PE, PLS, EMS — ENGINEERING MANAGER
(HOME) 212 ARMSTRONG RD, COLUMBIA, MS 39429 ..... (601) 441-6436
(WORK) ENVIRONMENTAL MANAGEMENT SERVICES, INC., HATTIESBURG, MS ..... (601) 544-3674

KEN RUCKSTUHL, RPGMS, EMS — HEALTH & SAFETY MANAGER
(HOME) 116 PARADISE POINT DR., BRANDON, MS 39047 ..... (601) 832-6509
(WORK) ENVIRONMENTAL MANAGEMENT SERVICES, INC., JACKSON, MS ..... (251) 456-3477

CONTACTS FOR EMERGENCY SERVICES

ADEM Emergency Response After Hours ..... 1 (800)-843-0699
Alabama Emergency Management Agency ..... (205) 287-1171
ADEM (MOBILE, AL) 2204 PERIMETER RD., MOBILE, AL 36615 ..... (251) 450-3400
ADEM (MONTGOMERY, AL), 1400 COLISEUM BLVD., MONTGOMERY, AL 36110 .. (334) 271-7730

MEDICAL EMERGENCY CONTACTS

Ambulance Service (EMS) ..... (251) 208-7351
(Or dial) 911
University of South Alabama Medical Center
2451 University Hospital Dr., Mobile, AL 36617 ..... (251) 471-7300

SPILLS TO WATER

Captain of the Port, U. S. Coast Guard
1500 15th St, Brooklyn Complex, Mobile, AL 36652 ..... (251) 441-5976

TO HANDLE/TRANSPORT WASTES

Chemical Waste Management, Inc.
P. O. Box 55, Emelle, AL 35459 ..... 1 (800) 963-4776

FIRES, EXPLOSIONS

Mobile Central Fire Station
701 St. Francis, Mobile, AL 36602 ..... (334) 208-7351
(in an emergency, call) 911

OTHER EMERGENCIES

Mobile County Emergency Management
7350 Zeigler Blvd., Mobile, AL 36608 ..... (251) 460-8000
Mobile Police Department
2460 Government St., Mobile, AL 36606 ..... (251) 208-1700
Mobile County Sheriff's Department
P. O. Box 113, Mobile, AL 36601 ..... (251) 574-6397

WASTE SPILLS OR RELEASES

National Response Center 1-800-424-8802

SEVERE WEATHER

National Weather Service, Mobile, AL ..... (251) 633-6443

OTHER CONTACTS

Plains Marketing, L.P. ..... (251) 456-4688
24-Hr Emergency ..... (800) 708-5071
(formerly A. Hess Terminal)
Kimberly Clark ..... (251) 330-3000
(formerly Scott Paper Company)

CONTINGENCY PLAN
REVISION 02

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA
ALD 057 226 904

REVISED APRIL 26, 2022

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 Criteria for Implementation of the Continengency Plan 1
2.1 Fire and/or Explosion 2
2.2 Releases or Spills of Hazardous Materials 3
2.3 Severe Weather 4
3.0 Emergency Coordinators Identification 4
4.0 Emergency Equipment 5
5.0 Evacuation Plan 5
6.0 Contingency Plan Copy Location 5
7.0 Contingency Plan Amendment 6
8.0 Emergency Procedures 6
9.0 Arrangements for Emergency Service 6
10.0 Procedure for Identification of Hazardous Waste 7
11.0 Procedure for Assessment of Environmental/Human Health Hazards 7
12.0 Notification of State Emergency Services Coordinator 8
13.0 Process Shutdown and Monitoring Procedures 9
14.0 Waste Disposal and Clean-Up Procedures 9
15.0 Emergency Equipment Cleaning and Refitting Procedures 9
16.0 Special Emergency Procedures for the Surface Impoundments 10
17.0 Procedures to Repair the CAP 10
18.0 Procedure for Notifying the Alabama Department of Environmental Management 10
19.0 emergency Medical Procedures 10
20.0 Plant Location and Site Description 11
20.1 Water Treatment System Description 11
20.2 Communication Systems 13
20.3 Safety Equipment 13

LIST OF TABLES

TABLES	DESCRIPTION
E-1	BASES FOR LISTING HAZARDOUS WASTE CODES
E-2	EMERGENCY EQUIPMENT/PERSONNEL PROTECTION & SAFETY EQUIPMENT
E-3	EMERGENCY CONTACTS

LIST OF FIGURES

FIGURES	DESCRIPTION
E-1	SITE LOCATION MAP
E-2	SITE PLAN
E-3	EVACUATION ROUTES

LIST OF EXHIBITS

EXHIBITS	DESCRIPTION
E-1	EMERGENCY PHONE NUMBER SIGN (EXAMPLE)
E-2	DOCUMENTATION OF ARRANGEMENTS WITH LOCAL AUTHORITIES
E-3	REPORT FORM FOR EMERGENCY EVENTS
E-4	HEALTH AND SAFETY INFORMATION

1.0 INTRODUCTION

This contingency plan is prepared for the Cavenham Forest Industries LLC (CFI) Mobile site located on the south end of Herbert Street in Mobile, Alabama. Figure E-1 shows the site location. Figure E-2 is a site plan that shows the layout of the site and the existing facilities. The site was formerly a wood treating plant which produced treated wood products (predominantly utility poles and piling) using the preservatives creosote and pentachlorophenol. During the active life of the facility, it used surface impoundments, drying beds, and drum storage facilities that have been closed as an on-site landfill. Hazardous waste managed at this site has been largely the ADEM Administrative Code Rule 335-14-2-.04(3) defined waste K001 specifically, wastewater treatment sludge from the on-site treated wood operation that collected in surface impoundments. Other defined wastes managed at this site include F032 and F034, when investigative derived waste (IDW) has been produced as part of the remedial and/or investigatory process. Table E-1 provides a listing of the constituents that are the basis for the waste code listings.

Presently, there is no K001 sludge being generated or stored by the Mobile facility. However, groundwater and effluent are being pumped and treated because it contains K001 listed constituents.

This contingency plan documents procedures to be implemented when an imminent danger to human health or the environment is posed by wastes contained in or released from the Mobile facility.

With the exception of activities pertaining to site remediation and groundwater corrective action, hazardous waste is not expected to be generated, stored, treated, or sent off-site. Groundwater treatment at the CFI Mobile site will result in the generation of spent activated carbon and organic-(oil-) phase liquid for off-site shipment, which is conservatively manifested as K001 waste. The only on-site activities will be facility inspections, groundwater pumping, groundwater treatment system operation, and monitoring. No hazardous or dangerous incidents resulting from these activities are expected; however, this plan is suitable for use in responding to emergency situations which might involve or threaten the operation of the closed Mobile facility.

2.0 CRITERIA FOR IMPLEMENTATION OF THE CONTINENGENCY PLAN

The purpose of this section is to provide the Emergency Coordinators (EC) with a set of decision-making criteria and in no way is intended to mandate or restrict the circumstance under which the contingency plan may be implemented.

The main on-site activity is the pumping and treatment of groundwater containing organic material from former creosote operations. Therefore, dangerous or life-threatening situations are not foreseen, although this plan addresses remotely possible emergencies.

Employees and contractors will immediately notify the on-site EC upon identifying any fire, explosion or release of hazardous waste or constituents which could threaten human health or the environment. The EC will then notify the Environmental Manager (EM). Upon notification, and based upon the information received, the EM and/or EC will determine if the contingency plan should be initiated. The EM shall delegate responsibilities to other employees, such as the lab manager for waste identification, and the Health & Safety Manager for selection of appropriate personal protection equipment (PPE) and other pertinent safety protocols.

The contingency plan will be put into effect if the possibility exists that one, or more, of the following situations exists during an incident:

- The incident threatens human health and the environment outside the facility boundaries.
- Additional outside assistance is necessary to bring the incident under control.
- Evacuation of the local area is necessary.
- The potential of an impending explosion is high.
- An incident that causes the release of toxic fumes.
- An incident that spreads and could possibly ignite materials at other locations.
- A fire/explosion that could possibly spread to off-site areas. Use of water or chemical suppressant on a fire that results in contaminated run-off.

2.1 FIRE AND/OR EXPLOSION

For purposes of this plan, a fire that could threaten human health or the environment is defined as combustion of waste such that it is not readily controllable by facility personnel using on-site equipment and/or available fire extinguishing material. Common fire extinguishing material that is stored on-site includes, but not limited to, fire extinguishers, water and dirt. **EMS does not require nor expect any untrained employee or contractor to attempt to suppress/extinguish a fire**.

If it is determined that the contingency plan should be activated and additional outside aide is needed to contain and/or suppress the fire/explosion, the emergency response agencies shall be notified immediately. The notifier should be ready to supply as much of the following information as possible:

- The nature and extent of the incident (fire and/or explosion and magnitude);
- The location of the incident;
- The nature and quantities of materials involved;
- The nature of any injuries sustained (number of injured and seriousness);

- The potential of subsequent explosions or spread of fire to other hazardous materials;
- The extent or possibility of released material to the air and immediate surrounding areas; and,
- Wind direction and relative speed.

The EC shall direct the emergency response efforts until more qualified emergency responders arrive on-scene. Should the EC not be present or able to perform said role the next most qualified personnel shall direct the response efforts. These efforts may include, as appropriate and necessary, the following activities:

- Ensure all on-site personnel are evacuated to a safe area;
- Establish necessary lines of communication;
- Provide all necessary PPE;
- Monitor the nature of the fire/explosion;
- Limit or restrict the traffic in the area;
- If safe and practical, remove waste containers or combustibles that could aggravate the situation;
- If safe and practical, collect and/or contain any released waste; and/or,
- Construct barrier walls to serve as firebreaks and as temporary containing measures, and control off-site discharge of wastes.

2.2 RELEASES OR SPILLS OF HAZARDOUS MATERIALS

For the purpose of this sections, a release or spill is defined as 55-gallons or more of material outside of its container or tank, not on sacrificial soils or not contained within other containment structures. For materials on sacrificial soils or inside a containment structure, a spill or release shall be considered to have occurred if the material poses a threat to other materials within the same containment unit.

If a release/spill occurs, the EC will immediately take the following actions, as appropriate and necessary:

- Notify the EM and provide the following information:
    - Exact location;
    - Material involved;
    - Quantity involved;
    - Topographic and environmental conditions;

- Circumstance that may hinder responses; and,
- Injuries, if any.

- Notification of the National Response Center and local authorities must occur immediately upon discovery of "Reportable Quantity" discharges;
- Turn off all ignition sources
- Turn off lift pumps;
- Locate the source of release/spill;
- If safe to do so, isolate the source of the release/spill to prevent/stop flow;
- If safe to do so, contain the material by constructing earthen berms, deploy sand bags and/or absorbent socks, and/or dig temporary containment pits downgradient of the spill, as necessary and practical; and,
- Deploy absorbent socks and sorbent material along the shoreline to prevent material from entering waters, as necessary and practical.

2.3 SEVERE WEATHER

The potential exists for flooding of the hazardous waste storage treatment and facilities. Three-mile creek abuts the southern edge of the property near its confluence with the Mobile River. The greatest threat to flooding occurs during tropical storms that frequent the northern gulf coast during hurricane season. Prior to a potential tropical storm impacting the site, operations of the groundwater extraction and water treatment unit is stopped and all portable hazardous waste containers are secured.

No personnel will be on-site during a tropical storm event. Once safe to do so site personnel will inspect the site to determine the extent, if any, of damages and/or releases. Should a release have occurred during the flood/storm all notifications will be made as appropriate and necessary.

3.0 EMERGENCY COORDINATORS IDENTIFICATION

During the post-closure care period, the site Environmental Supervisor will also be the site EC. The EC and/or EM are responsible for deciding when the contingency plan will be implemented.

During the post-closure care period CFI personnel or CFI contract personnel will normally be on-site performing routine inspections, operations, and maintenance activities. After hours, the EM and EC can be contacted at the telephone number posted outside the door of the facility office building and contained on the frontispiece of this plan. This list is updated, as necessary. All employees read the Contingency Plan at least annually and are thoroughly familiar with the plan and plan implementation.

The EC retains primary authority and responsibility for the plant, personnel, and physical properties. In this capacity, he has the authority to make all necessary expenditures in order to respond to emergency situations such as fires or releases of hazardous waste.

In the event of an emergency situation, the EC is notified first. If the EC cannot be notified, then the EM or a secondary coordinator will be notified. Attempts at notification will be made in order of appearance on the frontispiece (Contacts for Emergency Services) until a successful notification is made. A successful notification is deemed actual voice contact with an EC. For periods of time when no employees are on-site, a "corporate" phone number will be posted at the door of the office. See Exhibit 1.

4.0 EMERGENCY EQUIPMENT

All of the emergency response equipment, with the exception of off-site mobile equipment, is located in a locker in the southwestern corner room of the office building, in the laboratory, and in the building located at the water treatment system. A list of emergency equipment, which includes a description of the location where this equipment is stored, is found in Table E-2.

5.0 EVACUATION PLAN

Evacuation of the site will not normally be required since the only on-site activity will be the treatment of contaminated groundwater, and maintenance of the final Hazardous Waste Management Area cap and grounds. Should an incident occur, the major emphasis is placed on containing and controlling the hazard to prevent the hazard from increasing. However, in certain situations where an uncontrollable spill exists or there is an imminent danger of fire, evacuation may be advisable. The EM and/or EC is responsible for determining which situations require evacuation and the extent of the evacuation. Evacuation routes would be to exit the property to the north with rally points outside the property boundary. An alternative emergency evacuation route would be to the east of the property along the railway. From the railway evacuees could continue either northerly or southerly along the track to a designated meeting place. A diagram of the site's evacuation routes is included as Figure E-3.

6.0 CONTINGENCY PLAN COPY LOCATION

The Contingency Plan is located in the site office building and a copy is maintained at the corporate headquarters of Environmental Management Services, Inc. in Hattiesburg, MS. Environmental Management Services, Inc. provides personnel for daily operation and maintenance under contract to CFI. Other copies of the plan have been distributed to emergency response agencies and centers in the Mobile area. Table E-3 provides a plan distribution list. Exhibit E-2 provides documentation the plan was delivered to the facility on the distribution list.

7.0 CONTINGENCY PLAN AMENDMENT

Amendment of the Contingency Plan is the responsibility of CFI. Either CFI or their contract consultant will amend the plan in the event of changes in facility design, construction, operation, or maintenance. This person must also modify the plan in response to other circumstances that would materially increase the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or that change the response necessary in an emergency.

The plan is reviewed during each facility permit application revision. It will also be reviewed and modified accordingly should it fail in an emergency.

If changes are required during a Plan review, the changes will be incorporated into the Plan and a revised copy or amendment will be mailed to all entities contained in the mailing list shown on Table E-3.

8.0 EMERGENCY PROCEDURES

On discovery of an emergency situation, the EC will be immediately notified. If this person is not on-site at the time of the emergency, he or she will be contacted at home, the number is the first number listed in the Contacts for Emergency Services list found on the first page (frontispiece) of this plan. Phones are available in the site office building. Most employees working at this facility maintain cellular phones in their vehicles.

Because the plant site is relatively small, the EC may be able to contact plant personnel by voice. Otherwise, he may contact personnel using a regular or "cellular" telephone. Additionally, notification will normally be made to the other members on the contact list, informing them on the nature of the emergency and what the response will be. The EC, in turn, will organize and direct personnel to carry out the assigned tasks.

9.0 ARRANGEMENTS FOR EMERGENCY SERVICE

The EC and/or EM shall decide whether immediate state, local, or private assistance is required. The frontispiece outlines available suppliers, state and national agencies, and local emergency service groups with whom emergency service arrangements have been made, along with their phone numbers. The frontispiece also contains some emergency service numbers having no formal emergency service arrangements with the Mobile facility.

10.0 PROCEDURE FOR IDENTIFICATION OF HAZARDOUS WASTE

The EC will immediately identify the exact source of the release. The identity and characteristics of the released waste will be determined using the coordinator's knowledge of the site and its waste characteristics.

If for some reason the waste cannot be identified or if quantification is required, grab samples of the suspect material will be collected and sent to an outside laboratory. Samples will be analyzed for the chemical characteristics of K001, and/or F032 and F034 wastes listed in Table E-1. These analyses will employ appropriate test methods as found in the EPA's publication SW-846.

The amount and extent of the release will then be determined. Estimates of the amount of released waste will be based on tank volumes, visual inspections, or chemical analyses, as warranted. A qualitative description of the extent of the release will be made, including releases to the air and surface waters, as well as land, as soon as possible. This may be followed by a more quantitative approach, if warranted.

11.0 PROCEDURE FOR ASSESSMENT OF ENVIRONMENTAL/HUMAN HEALTH HAZARDS

The EC will assess the hazard based on knowledge of the release developed in the preceding section. Possible exposure paths (including air, water and groundwater) will be determined. If local agencies are required for assistance, then these agencies will be consulted before completing the initial assessment. Assessments will be updated when necessary to reflect changing conditions.

In the event an evacuation is called for by the EC, the following actions will be taken:

> All site personnel will be contacted and advised that an evacuation has been ordered. At this time the supervisor or personnel will be informed whether his crew, or part of his crew, is to remain on the plant site as part of the emergency response team. Primary and alternative evacuation routes are shown in Figure E-3.
>
> Personnel not authorized to remain will leave the plant site by the designated evacuation route unless the EC has indicated a need to evacuate via the alternative route. Plant personnel will advise all visitors and contractors to immediately leave the plant site by the designated or alternate evacuation route, and to meet at a designated rally point. The primary rally point will be outside the eastern side of the office building near the Herbert Street entrance. The alternate rally point will be at the railroad near the location of well UG-1, or to the south at the railroad trestle. Employees, visitors, and contractors should leave in groups whenever possible. All groups will remain together until the group reaches the rally point. No one may leave the rally point until everyone is accounted for.

All persons at the designated rally point will be accounted for by the highest-ranking supervisor, or if no supervisor is present, by the highest-ranking employee. A list will be compiled of the names of all persons meeting at the rally point. This list will be hand-delivered to the EC.

The list of persons at the rally point, the list of emergency response team members, and the list of persons leaving and entering the plant will be compiled by the EC in order to account for all persons on the plant site at the time the evacuation order was given.

Any attempts to find persons not accounted for will not involve endangering the lives of others by entering hazardous areas.

Entry into the evacuated area by unauthorized persons will be allowed only after the EC has declared the emergency over and given his authorization for re-entry into the plant.

12.0 NOTIFICATION OF STATE EMERGENCY SERVICES COORDINATOR

If the EM and/or EC determines that the facility has had a release, fire, or explosion that could threaten human health or the environment, then he must immediately notify the **Alabama Emergency Management Agency Coordinator** at **(251) 460-8000** during or after working hours. The EC report must include:

- Name and telephone number of the owner or operator
- Name and address of facility
- Time of incident and type of incident
- Identification and quantity of materials involved, to extent known
- The extent of injuries, if any
- Possible hazards to human health or environment
- Estimated quantity and disposition of recovered material that resulted from the incident

Within 15-days of the emergency incident, CFI will submit a written report to the Alabama Department of Environmental Management. The report will include completion of applicable portions of the form shown in Exhibit E-3.

A copy of the Contingency Plan has been sent to local emergency authorities. Refer to Exhibit E 2 for documentation of these mailings.

13.0 PROCESS SHUTDOWN AND MONITORING PROCEDURES

Monitoring duties will be completed by the site Environmental Technician. Monitoring duties will normally consist of checking existing or possible spill sources or sources of leakage. Where possible, the person will attempt to close leaking valves, etc. If the person determines that the hazard cannot be quickly remedied, he must immediately notify the EC , who in turn notifies the appropriate project management personnel. A list of these phone numbers is found in the frontispiece of this plan. No monitoring will be done that might endanger the life of plant personnel.

14.0 WASTE DISPOSAL AND CLEAN-UP PROCEDURES

The only hazardous waste generated, stored and treated results from groundwater corrective action associated with the closed units, and any spent activated carbon that is used in the water treatment process. Should a spill occur, CFI will make arrangements for the treatment, storage, or disposal of recovered waste, contaminated soils, surface water or any other contaminated material.

When spilled material is recovered, the EM will determine if the recovered material is hazardous. Unusable recovered material and contaminated soils and equipment will be disposed of in an environmentally sound manner. Soils that are non-hazardous will be returned to the area from which they were removed or used on-site as fill material.

An off-site contractor would be employed to remove and properly dispose of the waste.

No disposal or clean-up is expected to be necessary from the closed facilities.

15.0 EMERGENCY EQUIPMENT CLEANING AND REFITTING PROCEDURES

After an emergency event, all emergency equipment will be cleaned with steam and/or with soap and water to make it suitable for service. Decontaminated, or otherwise serviced or replaced equipment will be returned to original storage locations for future emergency uses. Any contaminated liquids that are generated will be routed to the water treatment system.

All equipment that cannot be decontaminated will be properly disposed of, along with residues from the decontamination process. Appropriate personnel protection equipment and safety measures will be employed to protect employees or contractors and the environment.

16.0 SPECIAL EMERGENCY PROCEDURES FOR THE SURFACE IMPOUNDMENTS

The surface impoundments have been capped as a part of closure. No emergency is anticipated from the closed Hazardous Waste Management Area.

17.0 PROCEDURES TO REPAIR THE CAP

The possibility of catastrophic failure of the cap is unlikely. Should a cap fail by slumping or erosion, the failing areas will be reinforced with locally obtained fill material or sandbags. The CFI management will be contacted and off-site contractors will be employed to correct the failure.

Carbon beds and piping associated with the water treatment system are inspected regularly for indications of corrosion or failure.

18.0 PROCEDURE FOR NOTIFYING THE ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

The Alabama Department of Environmental Management will be notified within seven (7) days of detection of any un-permitted discharge from the facility. The notification will contain an explanation of the problem, the date and time materials were released, a discussion of actual or potential hazards (if applicable), and the remedial measures planned or accomplished. The form shown in Exhibit E-3 will be used.

19.0 EMERGENCY MEDICAL PROCEDURES

Medical procedures for certain injuries that could occur during routine monitoring and maintenance are detailed below. Other injuries such as burns, cuts, and fractures that could occur during an emergency should be treated by a trained medical professional.

Procedures for treating injuries specific to the site's waste, as specified in the facility's material safety data sheets (MSDS), are provided below. Copies of MSDS sheets for creosote and pentachlorophenol are provided in Exhibit E-4.

Skin Contact - remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or waterless hand cleaner for at least 15 minutes. Wash contaminated clothing before reuse. Avoid solvents. For relief of irritation, creams such as Topicort, Cortaid and Lanacort have been useful. If irritation persists, seek medical aid.

Eye Contact - Flush eyes immediately with large amounts of water for at least 15 minutes. Call a physician.

Inhalation - Remove from exposure. If breathing has stopped or is difficult administer artificial respiration or oxygen as appropriate and necessary and **seek IMMEDIATE medical aid**.

Ingestion - **Get IMMEDIATE medical attention**. If a medical professional directs the on-site responder the following actions may be helpful:

- If victim is conscious and alert, give 1- to 2-glasses of water or milk.
- Induce vomiting using ipecac syrup as directed on the label.
- For creosote ingestion: after vomiting, the victim may be given a slurry of 100-g of activated charcoal in 8-oz. of water (if directed to do so by trained medical personnel).

20.0 PLANT LOCATION AND SITE DESCRIPTION

The CFI Mobile facility is located at the south end of Herbert Street in northern Mobile, Alabama. The attached Figure E-1 shows the location of the site. Figure E-2 is a detailed site plan.

Prior to closure this facility manufactured utility poles and foundation piling by pressure impregnation with creosote or pentachlorophenol wood preservative.

The CFI Mobile facility has completed a closure that meets applicable RCRA regulations. The existing site now consists of the following:

- Closed Hazardous Waste Management Area and former Process Area;
- Office Building; and,
- Water Treatment System and Building.

20.1 WATER TREATMENT SYSTEM DESCRIPTION

During the post-closure care period, the Water Treatment System will be employed to treat groundwater and effluent from the Gradient Control System. The Gradient Control System consists of french drain type recovery piping located within the closed Hazardous Waste Management Area.

The Mobile facility's water treatment system is in continuous operation, typically running 24-hours a day, seven days a week. The system employs gravity flow through all separators and biological treatment units until the process reaches the activated carbon tanks where pumping is required. Since creosote has a higher specific gravity than water, the separation of the oil phase from the water phase is the reverse of typical oil separators associated with many petroleum products which float.

This system is designed to treat groundwater from post-closure operations at the Mobile facility by removing any creosote constituents first physically, then biologically. The quality of water after treatment is high enough to allow either discharge to surface waters or injection. All tanks in the entire system are above ground. The entire treatment system is contained within a concrete secondary containment system. Storage tanks have earthen secondary containment and all are considered part of the NPDES water treatment system.

Treatment begins by removing groundwater from the recovery well system via dedicated pumps located at each well. The groundwater or well effluent is pumped to either of Receiver Trough 1 or Receiver Trough 2, depending upon the organic content of the effluent water. Low organic content well effluent typically goes to one trough while high organic content water is directed to the other. Each trough aerates the water to enhance oil (organic-phase) separation. The clean or water phase of the high organic content water trough flows from the trough to Oil/Water Separator No. 3 while any recovered organic material is sent to Oil/Water Separator No. 2.

The low organic content well effluent/water from the receiver trough flows to Oil/Water Separator No. 1. The oil phase that settles from all three Oil/Water separators (Nos. 1, 2, and 3) stays in the units until there is enough volume to drain the oily phase into an oil storage tank. All of the water phase from Oil/Water Separator No. 2 then flows into Oil /Water Separator No. 3. The water or clean phase from both sections of Oil /Water Separators No. 1 and No. 3 flows into the Aeration Tank (Conditioning Tank) where it aerates and equalizes the flow of the water. From there, the water flows into one of the biological treatment areas of the system.

There are three separate fixed-film units. The first two units are connected to the Aeration Tank by a manifold and operate in parallel. Each unit has four fixed-film sections or cells, connected in series. The first cell (section) in each unit is the primary biological treatment section, the three following sections (cells) are for secondary biological treatment. The flow from these two fixed-film units converges and flow into the third fixed-film unit for final biological treatment. The fixed-film cells employ micro-organisms to break down the trace amounts of different organic chemical constituents of creosote into simpler compounds.

The flow from these units collects in a common tank called the Bio-Mass Accumulator which flows into one of four 18,000-gallon bio-treated water storage tanks. These tanks provide equalization and storage before the water is pumped into tanks containing activated carbon. When enough water has accumulated, it is pumped through two activated carbon tanks in series (with 2 additional units in parallel on reserve), prior to storage in the final holding tank. After treatment by activated carbon, the water is discharged through permitted NPDES Outfall 001 to 3-Mile Creek, or pumped to the injection system.

20.2 COMMUNICATION SYSTEMS

Internal - Phones are located in the office building and employees typically carry a cellular phone.

External - The telephone system serves as the site's external communications system. Most on-site employees carry cellular telephones which safeguard against interruption of telephone service in the event of power failure. It can also be used whenever work must be performed outside the office building, away from the regular phone line.

20.3 SAFETY EQUIPMENT

Safety equipment is stored in the wastewater treatment building and in the office building in a storage locker. (See Table E-2).

TABLES

TABLE E-1 - BASIS FOR LISTING HAZARDOUS WASTE CODES
RCRA CONTINGENCY PLAN, REV. 02
CAVENHAM FOREST INDUSTRIES LLC - MOBILE, ALABAMA

Constituent	CAS No.	K001*	F032**	F034**
Creosote	8021-39-4	X		
Phenol	108-95-2	X	X	
2-Chlorophenol	95-57-8	X		
2,4-dinitrophenol	51-28-5	X		
2,4-Dimethylphenol	105-95-2	X	X	
2,4,6-Trichlorophenol	88-06-2		X	
2,3,4,6-Tetrachlorophenol	58-90-2		X	
Pentachlorophenol	87-86-5	X	X	
Acenaphthalene	208-96-8	X		
Acenaphthene	83—32-9	X	X	X
Anthracene	120-12-7		X	X
Benz(a)anthracene	56-55-3	X	X	X
Benzo(a)pyrene	50-32-8	X	X	X
Benzo(b)fluoranthene	205-99-2	X		
Benzo(k)fluoranthene	[a]		X	X
Chrysene	218-01-9	X	X	X
Dibenz(a,h)anthracene	53-70-3	X	X	X
Fluoranthene	206-44-0	X		
Fluorene	86-73-7		X	X
Indeno(1,2,3-c,d)pyrene	193-39-5	X	X	X
Naphthalene	91-20-3	X	X	X
p-Chloro-m-Cresol	59-50-7	X		
Phenanthrene	85-01-8		X	X
Pyrene	129-00-0		X	X
Tetrachlorophenols	25167-83-3	X		
Trichlorophenols	933-78-8	X		
Arsenic	7440-38-2		X	X
Chromium	7440-47-3		X	X
Tetrachlorodibenzo-p-dioxins	-------		X	
Pentachlorodibenzo-p-dioxins	-------		X	
Hexachlorodibenozo-p-dioxins	-------		X	
Tetrachlorodibenozofurans	-------		X	
Pentachlorodibenzofurans	-------		X	
Hexachlorodibenzofurans	-------		X	

[a] this constituent is regulated as the sume of benzo(b)fluoranthene and benzo(k)fluoranthene.
*Federal Register/Vol. 46, No. 11/Friday, January 16, 1981/p.4619.
**Title 40, Code of Federal Regulations, Section 261.32 (40 CFR 261.32)

TABLE E-2 - EMERGENCY EQUIPMENT/PERSONNEL PROTECTION AND SAFETY EQUIPMENT
RCRA CONTINGENCY PLAN, REV. 02
CAVENHAM FOREST INDUSTRIES LLC - MOBILE, ALABAMA

EMERGENCY EQUIPMENT	USES/CAPABILITIES	NO.	LOCATION(S)
EMERGENCY RESPONSE EQUIPMENT			
Short handle square blade shovels	Can remove contaminated earth, spilled sludges, and repair or build dikes	2	Locker*
40# bags of industrial absorbent	Can be used to absorb small spills	1	Office building
Mobile communications equip.	To contact outside sources, and for field communications	2	Portable
Track hoe	Can remove contaminated earth, repair or build dikes, create drainage ditches	1	On-site, or rental
Bulldozer	Can repair or build dikes, create drainage ditches	1	On-site, or rental
FIRE PROTECTION EQUIPMENT			
Fire extinguishers	20# (B,C) dry chemical extinguisher for fighting small fires	2	Locker*
PERSONAL PROTECTION AND SAFETY EQUIPMENT			
First-aid equipment and supplies	Bandages and general first-aid equipment to treat injuries	1	Locker*
Chemical cartridge respirator with cartridges for organic vapors	Can be used for entering areas where there are organic vapors but sufficient oxygen to support respiration	2	Locker*
Eyewash stations	Used for removing chemicals from the eyes	2	Treatment System, Lab
Decontamination Facility	Hand-washing basins for washing oils or chemicals off of skin	1	Laboratory
Protective clothing	Impermeable plastic rain suits, impermeable gloves and boots, and protective goggles to prevent skin and eye contact	2	Locker*
FACILITIES TO DECONTAMINATE EQUIPMENT			
Detergent soap	Used for cleaning equipment	NA	Locker*
Plant domestic water	Used for cleaning equipment	NA	Locker*

*Locker is located in the western corner room of the office building

TABLE E-3 – EMERGENCY CONTACTS
RCRA CONTINGENCY PLAN, REV. 02
CAVENHAM FOREST INDUSTRIES LLC - MOBILE, ALABAMA

Mobile County Emergency Management (Civil Defense)
7350 Zeigler Blvd.
Mobile, Alabama 36608
(251) 460-8000

Captain of the Port, U.S. Coast Guard
1500 15th St., Brooklyn Complex
Mobile, Alabama 36652
(251) 441-5976

Mobile Central Fire Station
701 St. Francis
Mobile, Alabama 36602
(251) 208-7351

Mobile County Sheriff's Department
P.O. Box 113
Mobile, Alabama 36601
(251) 690-8633

Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, Alabama 36110
(Mailing) P.O. Box 301463
Montgomery, AL 36130-1463
(334) 271-7730

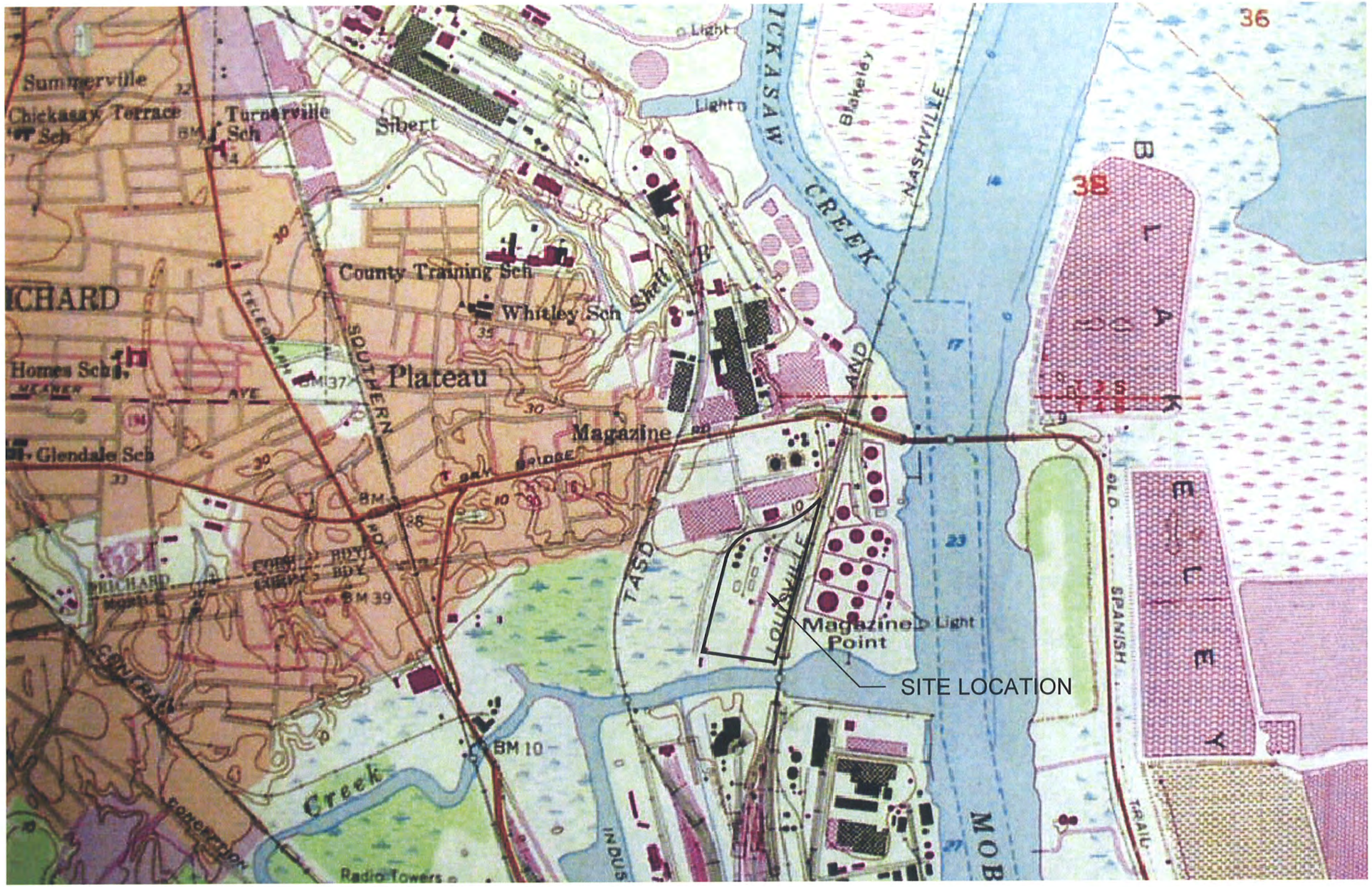
Alabama Department of Environmental Management
2204 Perimeter Road
Mobile, Alabama 36615-1131
(251) 450-3400

Alabama Emergency Management Agency
5898 County Road 41
P.O. Box 2160
Clanton, Alabama 35046-2160
(205) 287-1171

Plains Marketing, L.P. (formerly A. Hess Terminal)
P.O. Box 883
Mobile, Alabama 36601
(251) 456-4688

Kimberly Clark (formerly Scott Paper Company)
P.O. Box 2447
Mobile, Alabama 36652-2447
(334) 330-3000

FIGURES



N

SCALE: 1 INCH = .5 MILE

.25 .25 .5

0 .25 .5 1.0

REFERENCE: USGS MOBILE QUADRANGLE
7.5 MINUTE SERIES: 1953
PHOTO REVISED 1982.

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

DRAFTED BY: PWE		DATE: 05/98	
CHECKED BY: CWR		DATE: 05/98	
LAST REV. BY: CTJ		DATE: 05/01	
REV. NO.	DESCRIPTION		

SITE LOCATION MAP
CAVENHAM FOREST INDUSTRIES LLC
CONTINGENCY PLAN
MOBILE, ALABAMA

FIGURE
E-1

PROPERTY LINE

SUMP
T-1 TRENCH

UG-1

B-111

B-27

DG-1A
B-103
B-102
RW-9
RW-8A
RW-8
B-101
B-26

THREE MILE CREEK

B-108A
B-116
B-128
RW-10

CENTRAL AREA
CORRECTIVE ACTION
MANAGEMENT UNIT
(CAMU)

NORTH AREA
CORRECTIVE ACTION
MANAGEMENT UNIT
(CAMU)

T-2 TRENCH
SUMP

RW-11
B-36
RW-12
B-140
B-25
I-1
RC-1
RC-1A
RW-6
E-2
A-6
RW-5
A-5
B-29
RW-13
WATER
TREATMENT
AREA
GC SUMP
RC-2
RC-2A
B-104
RW-4
B-24
B-37

6' CHAIN LINK FENCE
HDPE-LINED SLURRY WALL
GRADIENT CONTROL SYSTEM

HAZARDOUS WASTE
MANAGEMENT AREA

A-4
RC-3
RC-3A
B-61
B-65
B-97
RW-3A
A-3
RW-3B
A-1
A-2

STAR TUBE

B-110
B-94

APPROXIMATE LOCATION OF STORAGE TANKS
OFFICE
UG-2
B-139
RW-7
E-1
RW-1
RW-2
I-2A
I-3
B-64A
B-48A
B-60A
B-59A
SWAMPY AREA

HERBERT STREET
KIMBERLY-CLARK
B-114
KIMBERLY-CLARK
DITCH

LEGEND

- UPPER AQUIFER MONITOR WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- UPPER AQUIFER RECOVERY WELL
- UPPER AQUIFER INJECTION WELL
- LOWER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL

N

0 62.5 125
SCALE IN FEET

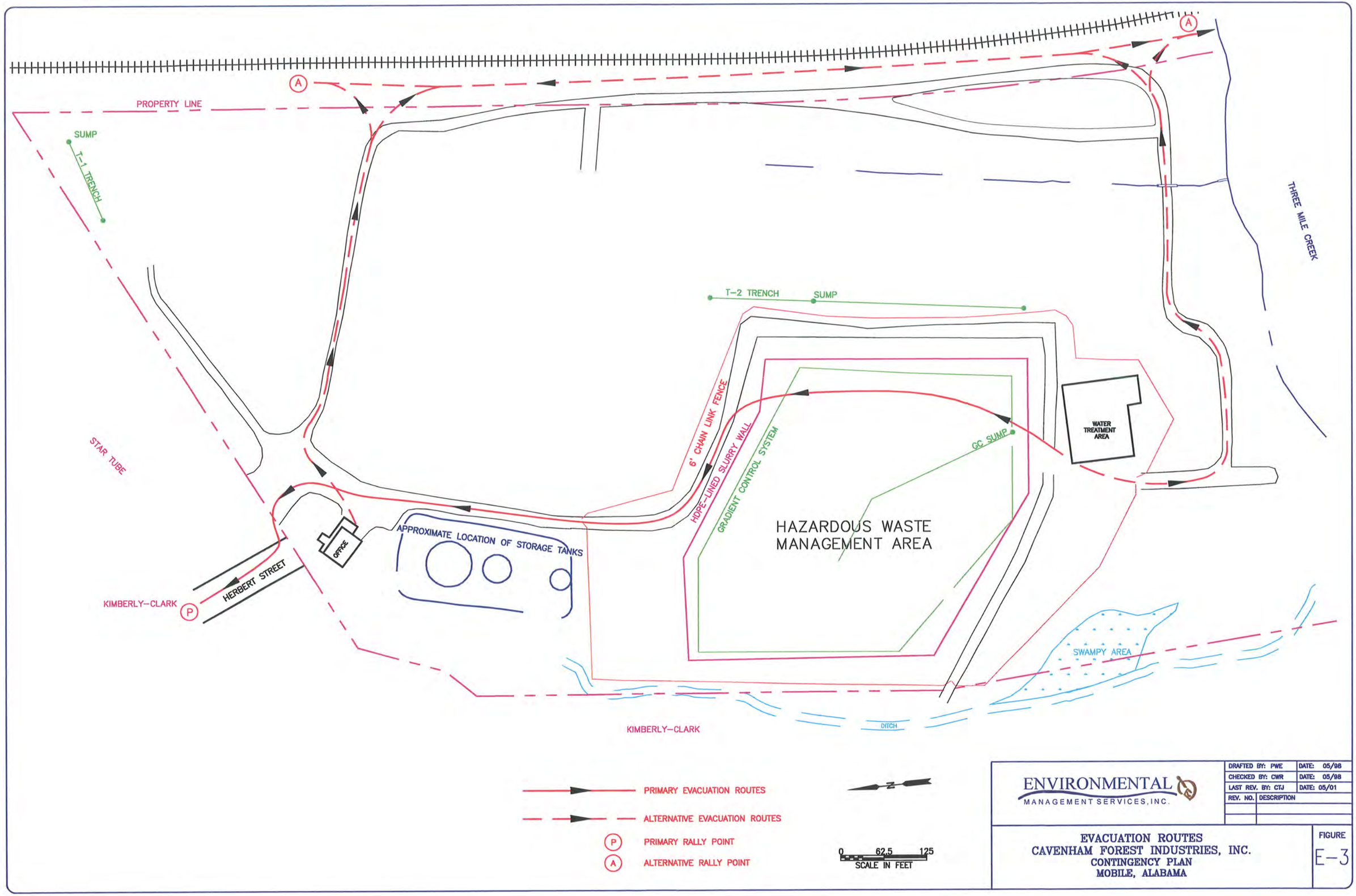
ENVIRONMENTAL MANAGEMENT SERVICES, INC.

DRAFTED BY: PWE	DATE: 05/98
CHECKED BY: CWR	DATE: 05/98
LAST REV. BY: CTJ	DATE: 05/01

REV. NO.	DESCRIPTION

MOBILE SITE PLAN
CAVENHAM FOREST INDUSTRIES LLC
CONTINGENCY PLAN
MOBILE, ALABAMA

FIGURE
E-2



ENVIRONMENTAL MANAGEMENT SERVICES, INC.

DRAFTED BY: PWE	DATE: 05/98	
CHECKED BY: CWR	DATE: 05/98	
LAST REV. BY: CTJ	DATE: 05/01	
REV. NO.	DESCRIPTION	

EVACUATION ROUTES
CAVENHAM FOREST INDUSTRIES, INC.
CONTINGENCY PLAN
MOBILE, ALABAMA

FIGURE
E-3

EXHIBIT E-1

EMERGENCY PHONE NUMBER SIGN (EXAMPLE)

Facility Contact

After Hours Emergency Number

800-583-7750

-or contact-

ENVIRONMENTAL MANAGEMENT SERVICES, INC

7350 HIGHWAY 98 HATTIESBURG, MS

(601) 544-3674

EXHIBIT E-2

DOCUMENTATION OF ARRANGEMENTS WITH LOCAL AUTHORITIES

Note:

Copies of the plan will be sent to all emergency service providers that are listed in Table E-3 every time a revision is made. Proof of delivery to the respective agencies will be included in this section of the plan.

EXHIBIT E-3

REPORT FORM FOR EMERGENCY EVENTS

REPORTING FORM FOR EMERGENCY EVENTS

Cavenham Forest Industries LLC - Mobile, Alabama

OPERATOR'S NAME:

FACILITY LOCATION:

ADDRESS:

PHONE NUMBER:

TYPE OF INCIDENT: (e.g. fire, explosion, etc.)

DATE:

TIME:

NAME & QUANTITY OF MATERIAL INVOLVED:

EXTENT OF INJURIES (IF ANY):

ASSESSMENT OF ACTUAL/POTENTIAL HAZARDS TO HUMAN HEALTH OR THE ENVIRONMENT:

ESTIMATED QUANTITY & DISPOSITION OF MATERIAL RECOVERED FROM INCIDENT:

SIGNATURE	PRINTED NAME	DATE

SEND TO: ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
1400 COLISEUM BOULEVARD
MONTGOMERY, ALABAMA 36110-2059

Environmental Management Services, Inc.
P.O. Box 15369
Hattiesburg, MS 39404
Project # BRO8-22-001
P: 601-544-3674

Exhibit E-4

Health and Safety Information

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
CREOSOTE SOLUTION (PRESSURE APPLICATIONS)

Synonyms
AWPA P2; EPA REG. # 61468-3

Chemical Family
Hydrocarbons, coal-tar

Product Description
This material meets AWPA specification for P2 creosote and is an EPA registered pesticide. Extensive animal testing has been conducted by the Creosote Council on creosote and the results are reported in Section 11.

Product Use
Creosote (P2) is registered only for pressure treatment of wood. Wood treaters must not knowingly pressure treat wood commodities that are not encompassed in the American Wood Protection Association (AWPA) Use Category System, as set forth in the most current edition of the AWPA Book of Standards. Refer to product label for more details.

Restrictions on Use
Restricted Use Pesticide; for sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicators' certification.

Details of the supplier of the safety data sheet

KOPPERS INC.
436 Seventh Avenue
Pittsburgh, PA 15219-1800
Mfg Contact: 412-227-2001 (SDS Requests: 866-852-5239)

CHEMTREC: 800-424-9300 (Outside USA: +1 703-527-3887)
Emergencies: (Medical in USA): 877-737-9047
Emergencies: (Medical Outside of USA): 651-632-9269
E-mail: naorgmsds@koppers.com

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Serious Eye Damage/Eye Irritation - Category 2B
Carcinogenicity - Category 1B
Specific target organ toxicity - Single exposure - Category 3 (Respiratory system)
Hazardous to the Aquatic Environment - Acute - Category 1
Hazardous to the Aquatic Environment - Chronic - Category 2

GHS Label Elements

Symbol(s)

Signal Word
Danger

Hazard Statement(s)

Causes eye irritation.
May cause cancer.
May cause respiratory irritation.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.

Response

IF exposed or concerned: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Collect spillage.

Storage

Store in a well-ventilated place.
Keep container tightly closed.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards

Heated material may cause thermal burns.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
8001-58-9	Creosote	100
-	The above listed complex substance contains the following constituents	-
85-01-8	Phenanthrene	11.2-18.2
206-44-0	Fluoranthene	7.2-10.8
83-32-9	Acenaphthene	5.8-8.6
91-57-6	2-Methylnaphthalene	4.4-8.5
91-20-3	Naphthalene	0.9-7.5

129-00-0	Pyrene	4.5-7.0
86-73-7	Fluorene	3.8-6.3
120-12-7	Anthracene	2.2-5.0
132-64-9	Dibenzofuran	3.0-4.3
90-12-0	1-Methylnaphthalene	2.1-3.9
95-13-6	Indene	0.0-3.7
56-55-3	Benz[a]anthracene	1.8-3.3
218-01-9	Chrysene	1.9-3.1
86-74-8	9H-Carbazole	1.2-2.9
92-52-4	Biphenyl	1.2-1.9
243-17-4	Benzo[b]fluorene	0.7-1.6
91-22-5	Quinoline	0.7-1.5
238-84-6	Benzo(a)fluorene	1.1-1.4
205-99-2	Benzo(b)fluoranthene	0.7-1.3
205-82-3	Benzo(j)fluoranthene	0.7-1.3
208-96-8	Acenaphthylene	0.7-1.0
217-59-4	Triphenylene	0.2-0.9
192-97-2	Benzo(e)pyrene	0.3-0.6
50-32-8	Benzo[a]pyrene	0.1-0.5
496-11-7	Indan	0.0-0.4
207-08-9	Benzo(k)fluoranthene	0.2-0.4
119-65-3	Isoquinoline	0.0-0.3

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Creosotes, polynuclear aromatic hydrocarbons, Aromatic hydrocarbons, polycyclic (130489-29-2).

Section 4 - FIRST AID MEASURES

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Move person to fresh air. If person is not breathing,

call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Skin
Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash all affected skin areas with warm soapy water. Skin contact causes photosensitization which can last for 36-72 hours after exposure. Keep out of direct sunlight for the next two to three days to avoid sunburn to the photosensitized skin areas. Use a broad spectrum blockout cream to protect against UV alpha ray exposure. Get medical attention, if needed.

Eyes
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Ingestion
Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to unconscious or convulsive person. If vomiting occurs, keep head lower than hips to help prevent aspiration.

Most Important Symptoms/Effects
Acute
respiratory tract irritation, mild skin irritation, eye irritation, thermal burns from heated material

Delayed
skin cancer

Indication of any immediate medical attention and special treatment needed
Probable mucosal damage may contraindicate the use of gastric lavage. Vomiting may cause aspiration pneumonia.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media
regular dry chemical, carbon dioxide, water spray, regular foam

Unsuitable Extinguishing Media
high-pressure water streams.

Hazardous Combustion Products
oxides of carbon, oxides of nitrogen, polynuclear aromatic hydrocarbons

Advice for firefighters
Contact with heat may generate toxic and/or flammable gases. Containers may rupture or explode if exposed to heat.

Fire Fighting Measures
Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Do not scatter spilled material with high-pressure water streams. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Use extinguishing agents appropriate for surrounding fire. Water may be used to blanket fire. Flood with fine water spray. Directly spraying water or foam onto hot burning product may cause frothing. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Dike for later disposal.

Special Protective Equipment and Precautions for Firefighters
Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid inhalation or contact. Provide adequate ventilation. Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment. Collect spillage.

Methods and Materials for Containment and Cleaning Up

Keep out of water supplies and sewers. This product is toxic to aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Avoid heat, flames, sparks and other sources of ignition. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Absorb (with sand, earth, etc.) discharged material and dispose of in accordance with applicable Federal, State and local regulations. Contaminated materials must be handled and managed as RCRA Hazardous Waste and treated before disposal in an approved landfill. This waste is identified by the EPA as a U051 hazardous waste and must meet the treatment standards specified in 40 CFR 268 Subpart D. A RCRA hazardous waste storage permit is required for storage of wastes beyond 90 days. In Canada, report releases to provincial authorities, municipal authorities, or both, as required. If this product is spilled or leaked into the environment, the CERCLA (40 CFR 302.4) reportable quantity is 0.1 gallons (1 pound), and requires National Response Center notification.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Avoid ingestion. When using do not eat or drink. Wear protective gloves/clothing and eye/face protection. Wash exposed areas thoroughly with soap and water, or a waterless hand cleaner, after skin contact and before eating, drinking, using tobacco products, or restrooms. Use protective skin cream on exposed skin before and during work shift. To reduce sun sensitivity a sun-blocking lotion can also be applied prior to application of a protective cream. Remove and launder contaminated clothing separately from other laundry before reuse. After working with the product use warm soapy water and a wash cloth to thoroughly wash all areas of skin that have been contacted with product. After washing, apply a broad spectrum UV blockout cream on exposed skin areas before going into sunlight. Keep out of strong sunlight for two to three days after being affected by the product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place.
Keep container tightly closed.
Store locked up.
Store and handle in accordance with all current regulations and standards. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355 Part B). Label all containers. Avoid heat, flames, sparks and other sources of ignition. Store in a cool, dry place. Protect from physical damage. Keep separated from incompatible substances.

Incompatible Materials

oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Creosote is a complex mixture of variable composition, and while no odor threshold for creosote has been established, work done at the University of California has measured the odor thresholds. for one of the more volatile components in creosote and determined that the involved odor threshold is in the part per billion range, and well below applicable exposure limits. On the basis of these data the perception of creosote odor in and of itself should not be taken as an indication of exposure in excess of accepted exposure limits.

Component Exposure Limits

Creosote	**8001-58-9**
ACGIH:	0.2 mg/m3 TWA as benzene-soluble aerosol (related to Pitch, coal tar, high-temperature)
OSHA (US):	0.2 mg/m3 TWA (benzene soluble fraction) (related to Pitch, coal tar, high-temperature)
Naphthalene	**91-20-3**
ACGIH:	10 ppm TWA
	Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA (US):	10 ppm TWA ; 50 mg/m3 TWA
Biphenyl	**92-52-4**
ACGIH:	0.2 ppm TWA
OSHA (US):	0.2 ppm TWA ; 1 mg/m3 TWA

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

Creosote (8001-58-9)

Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative) (related to Pitch, coal tar, high-temperature)

Naphthalene (91-20-3)

Time: end of shift Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis (nonquantitative, nonspecific)

Engineering Controls

Ensure adequate ventilation. Ensure compliance with applicable exposure limits. Refer to product label for more details.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Refer to product label for more details.

Skin Protection

Wear washable or disposable coveralls or long-sleeved shirt and long pants. Wear socks plus industrial grade safety boots with chemical resistant soles. Individuals who enter pressure treatment cylinders and other related equipment that is contaminated with the wood treating formulation must wear protective clothing (including overalls, jackets, gloves and boots) impervious to the wood treatment formulations and a respirator. Protective clothing must be changed when it shows signs of contamination. Remove and launder contaminated clothing separately from other laundry before reuse. Refer to product label for more details.

Respiratory Protection

If the applicable TLVs and/or PELs are exceeded, use NIOSH-approved multipurpose air-purifying cartridge respirators, for organic vapors and P-100 particulate. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known, or any other circumstance where air-purifying respirators may not provide adequate protection. Individuals who manually open cylinder doors must wear gloves and a NIOSH-approved multipurpose air-purifying cartridge respirators, for organic vapors and P-100 particulate. Refer to product label for more details.

Glove Recommendations
Individuals must wear gloves impervious to the wood treatment formulations in all situations where dermal contact with creosote is expected.

Protective Materials
Examples of impervious materials for protective clothing (e.g. overalls, jackets, gloves and boots) required during application and handling of creosote are polyvinyl acetate (PVA), polyvinyl chloride (PVC), Neoprene and NBR (Buna-N).

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	brown to black semi-liquid	**Physical State**	liquid
Odor	tar odor	**Color**	brown to black
Odor Threshold	Not available	**pH**	Not available
Melting Point	Not available	**Boiling Point**	287 - 863 °F
Boiling Point Range	Not available	**Freezing point**	Not available
Evaporation Rate	Not available	**Flammability (solid, gas)**	Not applicable
Autoignition Temperature	Not available	**Flash Point**	221 - 300 °F
Lower Explosive Limit	Not available	**Decomposition temperature**	Not available
Upper Explosive Limit	Not available	**Vapor Pressure**	0.01 - 0.306 mmHg
Vapor Density (air=1)	Not available	**Specific Gravity (water=1)**	1.1 at 60 °F
Water Solubility	(Insoluble)	**Partition coefficient: n-octanol/water**	Not available
Viscosity	Not available	**Kinematic viscosity**	Not available
Solubility (Other)	Not available	**Density**	Not available
Physical Form	semi-liquid at ambient temperature	**Molecular Weight**	Not available
OSHA Flammability Category	Not applicable*		

Other Information
*If not heated to within 30 degrees F of its Flash point

Section 10 - STABILITY AND REACTIVITY

Reactivity
No reactivity hazard is expected.

Chemical Stability
Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions
Will not polymerize.

Conditions to Avoid
Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

Incompatible Materials
oxidizing materials

Hazardous decomposition products
oxides of carbon, oxides of nitrogen, polynuclear aromatic hydrocarbons

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation
irritation

Skin Contact
mild irritation, thermal burns from heated material, skin cancer

Eye Contact
irritation, thermal burns from heated material

Ingestion
gastrointestinal irritation, bloating

Acute and Chronic Toxicity

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:

Creosote (8001-58-9)
Dermal LD50 Rabbit >2000 mg/kg

Product Toxicity Data

Acute Toxicity Estimate

Dermal	>2000 mg/kg
Inhalation - Vapor	>5.3 mg/L (4 hr.)
Oral	2197 mg/kg

Immediate Effects
respiratory tract irritation, mild skin irritation, eye irritation, thermal burns from heated material

Delayed Effects
skin cancer

Irritation/Corrosivity Data
0.5 ml/4 hour(s) skin-rabbit mild (Draize Score-1.5/8.0); 0.1 ml eyes-rabbit mild (Draize Score-7.0/110.0), Rabbit Eye Irritation: No corneal changes; conjunctival changes all reversed by 7 days post treatment. Max irritation score = 7.0/110, Rabbit Dermal Irritation: Slight-to-well-defined erythema and very slight-to slight edema cleared by day 7, PSI = 1.5/8.0

Respiratory Sensitization
No data available.

Dermal Sensitization
Negative dermal sensitization in guinea pigs.

Component Carcinogenicity

Creosote	**8001-58-9**
ACGIH:	A1 - Confirmed Human Carcinogen (related to Pitch, coal tar, high-temperature)
IARC:	Monograph 100F [2012] ; Supplement 7 [1987] ; Monograph 35 [1985] (related to Pitch, coal tar, high-temperature) (Group 1 (carcinogenic to humans))
NTP:	Known Human Carcinogen (related to Pitch, coal tar, high-temperature)
NIOSH:	potential occupational carcinogen

In a 6 month mouse skin cancer initiation-promotion study, undiluted creosote or a 1% or 50% P1/P13 creosote suspension was applied daily for two weeks followed by six months of twice-weekly applications. Creosote was tested as a tumor initiator with TPA as a promotor, as a promoter with DMBA as an initiator, and as both an initiator and a promoter. Repeated applications of creosote produced skin irritation and acted as an initiator, a promoter and a complete carcinogen. Due to compositional similarities between P1/P13 and P2 creosotes and the documented consistency of results in mammalian toxicity testing of these creosotes, results of the mouse skin cancer study with P1/P13 creosote can be applied to P2 creosote for purposes of hazard assessment.

Germ Cell Mutagenicity
P2 was dosed at 866, 432 and 199 mg/kg/day in a rat dominant lethal bioassay. Animals in all dose groups showed pharmacotoxic signs following dosing and lost weight during the dosing period which was not recovered during the 10 weeks of mating following dosing. P2 creosote produced evidence of germ cell mutation (increase in dead implantation sites) at the high dose, a systemically toxic dose. The number of live implants was not significantly reduced and no dominant lethal effects were seen at weeks 8 or 9. P2 creosote is considered by the study director as negative for the induction of germinal chromosomal mutations in epididymal sperm , spermatids, and spermatocytes but positive in chromosome mutations in spermatogonial stem cells. Any effect in sperm stem cells was not manifest in mature sperm. In reviewing this study, the US EPA concluded that “the number of live implant/female was not significantly reduced. In addition, no dominant lethal effects were seen at weeks 8 or 9, which would have included spermatogonial stem cells. Therefore, creosote P2 is considered to be negative for dominant lethal effects in rats”.

Tumorigenic Data
No data available

Reproductive Toxicity
Due to compositional similarities between P1/P13 and P2 creosotes and the documented consistency of results in mammalian toxicity testing of these creosotes, results of the reproductive toxicity testing in rats with P1/P13 creosote can be applied to P2 creosote for purposes of hazard assessment. Pregnant rats treated with P2 creosote orally on days 6 through 15 of their pregnancy at 225, 75 and 25 mg/kg creosote showed signs of maternal toxicity were seen at all dose levels. Developmental toxicity was manifest at the maternally toxic dose (225 mg/kg) as an increased incidence post-implantation loss and litter resorptions and decreased body weight for male fetuses. There were no structural defects at any dose level as a result of creosote administration. Adverse effects were not seen in the absence of maternal systemic toxicity. P2 creosote, therefore, is not considered a developmental toxicant.

Specific Target Organ Toxicity - Single Exposure
respiratory system

Specific Target Organ Toxicity - Repeated Exposure
No data available.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure
respiratory disorders, skin disorders

Additional Data
This product is coal tar creosote. Volume 35 of the IARC monograph states that there is limited evidence that coal tar derived creosotes are carcinogenic in humans and sufficient evidence for the carcinogenicity of creosote in experimental animals (Group 2A). IARC's evaluation of the effects of coal tar creosote in humans is based on older occupational studies in the wood-preserving and construction industries. When applied to the skin of mice in experimental studies, creosote produced skin tumors and in one study produced lung tumors. Today, with the use of engineering controls and personal protective equipment, occupational exposure to creosote components is expected to be below permissible exposure limits (measured as CTPVs). Recently, the largest health effects study to date of workers employed in creosote wood treating plants (2,179 employees at eleven plants from 1979-2001) conducted by Dr. Otto Wong, found no evidence supporting an increased risk of cancer death as a result of exposure to creosote. The NOAEL for rats in a 13-week subchronic inhalation study was 4.7 mg/m3. The NOAEL for female rats in a 90-day subchronic dermal study was greater than 400 mg/mg, and the NOAEL for male rats was 40 mg/kg due to reduced food consumption in the high-dose male group. All other parameters for toxicity including ophthalmoscopic examination appeared to be completely unaffected by dermal creosote exposure. Based on Buehler dermal sensitization testing, creosote is not considered to be a dermal sensitizing agent. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Prolonged and repeated skin exposure over many years in the absence of recommended hygiene practices may lead to changes in skin pigmentation, benign skin growth, and in some cases, result in skin cancer. Inhalation – 90 day repeated exposure - Rats were exposed in whole body inhalation chambers to P2 creosote for 6 hours/day 5days/week for 13 weeks to 102, 48 and 4.7 mg/m3. Exposure (vapor and particulate) produced sporadic body weight loss or weight gain suppression in all exposure groups and staining of the animals' respiratory tract and lungs immediately after the 90-day exposure period. Creosote deposition in the nose and upper respiratory tract produced acute and chronic inflammation which decreased along the tract toward the lungs. These changes diminished in severity during the post-exposure recovery period. The lung changes were limited to pigment deposition in the mid-and high exposure groups. There were no treatment–related lung inflammatory or proliferative changes or lesions of any type. Liver weight changes were unaccompanied by histopathololgic changes. Thyroid changes (follicular cell hypertrophy) were noted in female creosote-exposed animals. This condition was not seen as a result of creosote treatment in males. No changes indicative of heart damage were observed in any animal following the recovery period. At the end of the exposure period and at the end of the recovery period animals were evaluated by a veterinary ophthalmologist for signs of eye damage due to airborne creosote. No test material related eye changes were recorded. The NOAEL level in this study was 4.7 mg/m3. Dermal – No systemic effects following single high-level exposure. In addition to containing information about the product as a whole, this data sheet also contains information about individual components of the product. Information of this nature may not have been derived from studies or data relating to this product and/or may have been derived from studies or data that did not involve human exposure and involved animal exposure only. A neoplastic effect was reported in mice with subcutaneous injection of 46 mg/kg of diphenyl. Some polycyclic aromatic hydrocarbons (PAHs), found in coal tar complex substances, have been reported to cause lung and skin cancer in humans under conditions of poor personal hygiene, prolonged/repeated contact, and exposure to sunlight. The National Toxicology Program (NTP) and IARC have independently classified various PAH compounds present in coal tar substances as reasonably anticipated to be human carcinogens (NTP), probably carcinogenic to humans (IARC Group 2A), possibly carcinogenic to humans (IARC Group 2B), and not classifiable as to carcinogenicity to humans (IARC Group 3). The cancers reported in the studies upon which IARC based its conclusions involved lung, skin, liver, stomach, kidney and blood cancers in animals. Based on the results of animal experiments PAHs may cause injury to the liver, kidneys, lungs, blood and lymph systems. Some PAH's have also been associated with impaired fertility, heritable genetic damage and birth defects in mice.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity

Creosote	**8001-58-9**
Fish:	LC50 96 h Brachydanio rerio 2.6 - 6.6 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.57 mg/L [static]
Invertebrate:	EC50 48 h Daphnia magna 1.04 mg/L IUCLID ; EC50 48 h Daphnia magna 0.065 - 0.082 mg/L [Static] EPA

Persistence and Degradability
No information available for the product.

Bioaccumulative Potential
This material is believed not to bioaccumulate.

Mobility
Insoluble in water.

Other Toxicity
No data available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose in accordance with all applicable regulations. Pesticide wastes are toxic. Improper disposal of excess pesticide or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Based on the results of the Toxicity Characteristic Leaching Procedure (TCLP), the following US EPA Waste Code may apply to used product and/or materials contaminated with used product: Cresols – D026 (toxicity >/= 200 ppm). The US EPA Waste Code U051 applies to disposal of unused product and wastes resulting from spills of the unused material.

Component Waste Numbers
The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Contains: Creosote) RQ
Hazard Class: 9
UN/NA #: UN3082
Packing Group: III
Required Label(s): 9
Further information: 'Environmentally hazardous substances, liquid, n.o.s.' applies for all container sizes. This material contains reportable quantity (RQ) Hazardous Substances.

IATA Information:
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Contains: Creosote) RQ
Hazard Class: 9
UN#: UN3082
Packing Group: III
Required Label(s): 9 - Miscellaneous
Further information: Passenger or cargo aircraft LTD QTY is 30 kg G (Pkg. instructions Y964), passenger or cargo aircraft 450 L (Pkg. instructions 964), S.P. A97 & A158, ERG 9L.

TDG Information:
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Contains: Creosote) RQ
Hazard Class: 9
UN#: UN3082
Packing Group: III
Required Label(s): Class 9 - UN3082

International Bulk Chemical Code
This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Further information
STCC Code: 2814125; HAZ STCC Code: 4963330; US DOT Reportable Quantities: COAL TAR CREOSOTE (8001-58-9) 1 lbs RQ; 0.454 kg RQ

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Creosote	**8001-58-9**
SARA 313:	0.1 % de minimis concentration
CERCLA:	1 lb final RQ ; 0.454 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories
Carcinogenicity; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity

U.S. State Regulations
The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Creosote	**8001-58-9**	Yes	Yes	Yes	Yes	Yes

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

WARNING

This product can expose you to chemicals including Benz[a]anthracene, Benzo[a]pyrene , which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Canada Regulations

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Creosote	**8001-58-9**
	0.1 % (related to Pitch, coal tar, high-temperature)
Phenanthrene	**85-01-8**
	1 %
Fluoranthene	**206-44-0**
	1 %
Acenaphthene	**83-32-9**
	1 %
Naphthalene	**91-20-3**
	1 %
Pyrene	**129-00-0**
	1 %
Anthracene	**120-12-7**
	1 %
Benz[a]anthracene	**56-55-3**
	0.1 %
Chrysene	**218-01-9**
	0.1 %
Biphenyl	**92-52-4**
	1 %
Quinoline	**91-22-5**
	1 %
Benzo(b)fluoranthene	**205-99-2**
	0.1 %
Benzo[a]pyrene	**50-32-8**
	0.1 %

WHMIS Classification
D2A , D2B

Component Analysis - Inventory
Creosote (8001-58-9)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	No

The above listed complex substance contains the following constituents (-)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Phenanthrene (85-01-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Fluoranthene (206-44-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	NSL	EIN	Yes	No	Yes	Yes	No	No	No	Yes	Yes	No	Yes	Yes

Acenaphthene (83-32-9)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)

Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes

Naphthalene (91-20-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Pyrene (129-00-0)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Anthracene (120-12-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Benz[a]anthracene (56-55-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	NSL	EIN	No	No	No	No	No	No	No	Yes	Yes	No	Yes	Yes

Chrysene (218-01-9)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI -	KR KECI -	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)

							Annex 1	Annex 2						
Yes	DSL	EIN	Yes	No	No	No	Yes	No	No	No	Yes	No	Yes	Yes

Biphenyl (92-52-4)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Quinoline (91-22-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

Benzo(b)fluoranthene (205-99-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
No	No	EIN	No	No	No	No	No	No	No	No	Yes	No	Yes	Yes

Benzo[a]pyrene (50-32-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	No	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

U.S. Inventory (TSCA)

This product is exempt.

Further information

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification

criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use. Following is the hazard information as required on the pesticide label: CAUTION: Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin and clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Section 16 - OTHER INFORMATION

Further information

Creosote (P2) is registered only for pressure treatment of wood. Wood treaters must not knowingly pressure treat wood commodities that are not encompassed by the following use category table, which provides examples from the American Wood Protection Association (AWPA) Use Category System, as set forth in the most current edition of the AWPA Book of Standards.

NFPA Ratings

Health: 2 Fire: 1 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Update: 7/20/2018; SDS SUMMARY OF CHANGES: SECTION 15 - CA Proposition 65

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC – European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.

Vulcan CHEMICALS
A Business Group of Vulcan Materials Co

MATERIAL SAFETY DATA SHEET

24 Hour Emergency Phone 316/524-5751

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
GLAZD® Penta, Block Penta

CHEMICAL NAME
Pentachlorophenol

SYNONYMS
Penta, PCP, Technical Grade PCP, Chlorophenols, Solid

MANUFACTURER
Vulcan Chemicals, P O Box 385015, Birmingham, AL 35238-5015

SECTION 2 COMPOSITION INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	% RANGE	OSHA PEL
* Pentachlorophenol	87-86-5	83-93	0.5 mg/m^3
2, 3, 4, 6-Tetrachlorophenol	58-90-2	0.6-3.0	None
Other chlorophenols and related compounds		3.5-12.0	None
Chlorinated impurities		0-4.0	None

* Denotes chemical subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Light brown or tan flake or solid
DANGER! May be fatal if swallowed, inhaled or absorbed through skin.
Causes skin and eye irritation. Causes delayed chemical burns.

POTENTIAL HEALTH EFFECTS

INHALATION
Inhalation is a major potential route of exposure. Symptoms of overexposure include rapid heartbeat and respiration, elevated temperature and blood pressure, muscular weakness, excessive sweating, dizziness and nausea. High concentrations can cause unconsciousness, convulsions and death generally from cardiac arrest.

SKIN
Pentachlorophenol is readily absorbed through intact skin. Pentachlorophenol in solution can be readily absorbed through intact skin in toxic amounts, causing systemic poisoning and symptoms described in the Inhalation section above. Pentachlorophenol on the skin can cause irritation.

EYE
Pentachlorophenol causes irritation of the eyes at 1 mg/m^3. If exposure is prolonged, slight transient corneal damage can occur.

INGESTION
Single dose toxicity is high. Symptoms of ingestion are those described in the Inhalation section.

CHLORACNE

In humans, the absorption of pentachlorophenol by any route may result in the development of the skin condition, chloracne. This usually appears as blackheads, whiteheads and yellow cysts over the temples and around the ears. In severe cases, involvement may be extensive. Mild cases may be similar in appearance to other forms of acne and to skin changes commonly seen with aging.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Acute or chronic kidney or liver disease, asthma, bronchitis, chronic acne and other skin conditions.

CHRONIC EFFECTS

The finding of chronic toxic effects in laboratory animals may indicate toxicity to humans. Overexposure should be avoided, failure to do so could result in injury, illness or even death. Chronic overexposure to technical grade pentachlorophenol has caused liver and kidney toxic effects in experimental animals.

SECTION 4 FIRST AID MEASURES

INHALATION

Move victim to fresh air. If breathing has stopped, administer artificial respiration. Call a physician.

SKIN

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water for at least 15 minutes. Wash contaminated clothing before reuse.

EYES

Flush eyes immediately with water for at least 15 minutes. Contact a physician.

INGESTION

Call a physician or Poison Control Center immediately. If possible, vomiting should be induced under medical supervision. Drink one or two glasses of water and induce vomiting by touching the back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN

This product is a metabolic stimulant. Treatment is supportive. Forced diuresis may be effective to reduce total body burden. Treat hyperthermia with physical measures. Do not administer aspirin, phenothiazines, or atropine since they may enhance toxicity.

See Section 11 for Toxicological Information

SECTION 5 FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT

None

FLAMMABLE LIMITS IN AIR (PERCENT BY VOLUME)

None

HAZARDOUS COMBUSTION PRODUCTS

Hydrogen chloride, chlorinated phenols, and carbon monoxide

EXTINGUISHING MEDIA

Use dry chemical, foam, carbon dioxide or water spray. Water may be ineffective.

FIRE FIGHTING INSTRUCTIONS

Extinguish fire using agent suitable for surrounding fire. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Use water spray to keep fire-exposed containers cool.

Toxic gases are formed by thermal decomposition. Firefighters should wear self-contained positive pressure breathing apparatus, and avoid skin contact.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Ventilate spill area and avoid breathing dust or vapors. Clean up spilled material (wear protective equipment - See Section VII) and place in closed container for normal use if possible or proper disposal. Penta is toxic to fish and wildlife; do not allow to contaminate ground or surface waters. Notify National Response Center (800/424-8802) of uncontained releases to the environment in excess of the RQ.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with skin and breathing dust. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking or using restroom. Shower and change into uncontaminated clothing before leaving work premises. (Refer to Section 8).

Follow protective controls set forth in Section 8 when handling this product. Thoroughly wash potentially contaminated clothing before reuse. Do not launder work clothes with other non-contaminated clothes and/or household laundry. Contaminated clothing, boots or equipment should not be taken home.

STORAGE

STORAGE CONDITIONS

Store in properly labeled containers in dry, well ventilated secure area. Do not remove or deface label. Do not reuse drums for any purpose.

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

ENGINEERING CONTROLS

VENTILATION

Do not use in closed or confined space. Open doors and/or windows. Use ventilation to maintain exposure levels below 0.5 mg/m^3.

To determine the exposure level(s), monitoring should be performed regularly.

PERSONAL PROTECTIVE EQUIPMENT

EYE AND FACE PROTECTION

Wear safety glasses. Contact lenses should not be worn. When mixing penta solutions, wear chemical goggles and/or face shield.

SKIN PROTECTION

Wear PVC, neoprene, nitrile latex or equivalent gloves and tightly woven clothing including long sleeve shirt when handling flake or solid penta. When mixing penta solutions, wear protective clothing, gloves and boots or shoes, which are suitable for the solvent being used.

RESPIRATORY PROTECTION

Where concentrations of pentachlorophenol exceed or are likely to exceed 0.5 mg/m^3, a NIOSH approved organic vapor-dust filter type respirator is acceptable for concentrations up to 2.5 mg/m^3. A NIOSH approved self-contained breathing apparatus or air line respirator, with full face piece, is required for concentrations above 2.5 mg/m^3, or during emergency and spills. Follow applicable respirator use standards and regulations.

GENERAL
Safety shower and eye wash station should be available. Note: Protective equipment and clothing should be selected, used, and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer or the Vulcan Chemicals Technical Service Department.

EXPOSURE GUIDELINES

ACGIH: 0.5 mg/m^3 8 hour TWA
OSHA: 0.5 mg/m^3 8 hour TWA
(skin absorption possible)

ACGIH Biological Exposure Indices
(2 mg/L urine)
(5 mg/L plasma)

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH
2.5 mg/m^3

ODOR THRESHOLD
Odor thresholds for PCP solution at 30° and 60 °C were 857 and 12,000 µg/l, respectively.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL FORMULA
C_6Cl_5OH

MOLECULAR WEIGHT
266.32

APPEARANCE AND ODOR
Light brown or tan flake or solid

SPECIFIC GRAVITY
Flake bulk density = 70 lbs/ft^3

VAPOR PRESSURE
N/A

VOLATILES, PERCENT BY VOLUME
0

BOILING POINT
310°C (Melting Point: 190°C)

VAPOR DENSITY
N/A

EVAPORATION RATE
N/A

SOLUBILITY IN WATER
14 ppm @ 20°C

SECTION 10 STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable

CONDITIONS TO AVOID
Avoid contact with open flame, electric arcs, or other hot surfaces which can cause thermal decomposition.

INCOMPATIBILITY WITH OTHER MATERIALS
Strong oxidizers and alkalis.

HAZARDOUS DECOMPOSITION PRODUCTS
Hydrogen chloride, chlorine, chlorinated hydrocarbons

HAZARDOUS POLYMERIZATION
Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY
NOTE: The hazards of this product are based on studies on this or similar products.

INHALATION

Concentrations of 0.3 mg/m^3 can cause nose irritation. Concentrations above 1 mg/m^3 can cause irritation of upper respiratory tract with sneezing and coughing. Persons acclimated to pentachlorophenol can tolerate levels above 2 mg/m^3. Symptoms of overexposure include rapid heartbeat and respiration, elevated temperature and blood pressure, muscular weakness, excessive sweating, dizziness and nausea. High concentrations can cause unconsciousness, convulsions and death generally from cardiac arrest.

ANIMAL TOXICOLOGY

Oral LD_{50}: > 146-210 mg/kg (rat)
Dermal LD_{50}: > 96 mg/kg (rat)

CHRONIC TOXICITY

CARCINOGENICITY

Technical Grade Pentachlorophenol (penta) has been evaluated for possible cancer causing effects in laboratory animals. The National Toxicology Program fed up to 200 ppm Technical Grade (TG) penta and up to 600 ppm "purified" penta to mice, 7 days a week for 103 weeks. A statistically significant increased incidence of benign liver tumors was observed in male mice fed both types of penta. Increased benign liver tumors were observed only in females fed purified penta, and then only at the highest dose. Vascular tumors were observed in female mice, but not male mice. Increased incidence of benign tumors of the adrenal medulla were observed in both sexes of mice. Two other carcinogenicity studies, one in rats and one in mice failed to show increased incidence in tumors. In the rat study, rats were fed concentrations up to 30 mg/kg/day (approximately 750 ppm) for 2 years while the mouse study involved feeding of concentrations up to 46.4 mg/kg/day (approximately 600 ppm).

The International Agency for Research on Cancer (IARC) has concluded that, with respect to pentachlorophenol, there is sufficient evidence of the carcinogenicity to experimental animals, and inadequate evidence of the carcinogenicity to humans, resulting in a classification as a 2B animal carcinogen. Pentachlorophenol, 2,3,4,6-tetrachlorophenol and hydroxypolychlorodibenzo ethers are not listed on the NTP or OSHA carcinogen lists.

REPRODUCTIVE TOXICITY

Reproductive toxicity tests have been conducted to evaluate the potential adverse effects technical grade and purified pentachlorophenol may have on reproduction and offspring of laboratory animals. Both technical and purified pentachlorophenol have been found to be embryo and fetotoxic to rats, but not to hamsters. Neither technical grade nor purified pentachlorophenol caused teratogenic effects (birth defects), but did cause delays in normal fetal development. The EPA has expressed the opinion that pentachlorophenol can produce defects in the offspring of laboratory animals. Exposure to pentachlorophenol during pregnancy should be avoided.

NOTE: This product contains trace quantities of hexa, hepta and octachlorodibenzo-p-dioxins, hexa, hepta and octachlorodibenzofurans and hexachlorobenzene. The State of California has listed pentachlorophenol, hexachlorodibenzo dioxin and hexachlorobenzene under Proposition 65 as chemicals known to the State to cause cancer and hexachlorobenzene as a chemical known to the State to cause birth defects or other reproductive harm. If further information is desired, contact Vulcan Chemicals Technical Service Department.

SECTION 12 ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

Water: . If released in water, pentachlorophenol will adsorb to sediment, photodegrade (especially at higher pHs) and slowly biodegrade. Bioconcentration in fish will be moderate (bioconcentration factor range is 64-770). Biodegradation probably becomes significant after a period of acclimation (may be several weeks). Adsorption to sediments will be considerable. Hydrolysis and volatilization are not important processes in water.

Soil: Releases to soil can decrease in concentrations due to slow biodegradation and leaching into groundwater. Photolysis and hydrolysis of pentachlorophenol do not appear to be significant processes in soil. Pentachlorophenol released to soil will biodegrade with half-lives of weeks to months.

Air: Vapor phase pentachlorophenol will be lost by photolysis and to a lesser extent, reaction with photochemically produced hydroxyl radicals.

ECOTOXICITY

Acute LC_{50} (96 Hours, static) for Fathead Minnow: 205 µg/L
Acute LC_{50} (96 Hours, static) for Bluegill: 32 µg/L
Acute LC_{50} (96 Hours, static) for Sheepshead Minnow: 232-329 µg/L

SECTION 13 DISPOSAL CONSIDERATIONS

All disposals of this material must be done in accordance with local, state and Federal regulations. Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator.

SPILL RESIDUES

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA regional office for guidance.

CONTAINER DISPOSAL

Completely empty drum or liner into application equipment. Triple rinse or clean empty drums, liners and block wrappings in accordance with 40 CFR 261.7(b)(3) prior to offering for reconditioning, recycling or other disposal. For guidance, contact the nearest EPA regional office or State Agency authorized to administer the Resource Conservation and Recovery Act (RCRA).

SECTION 14 TRANSPORT INFORMATION

DOT IDENTIFICATION NO.

UN 3155

DOT SHIPPING DESCRIPTION (49 CFR 172.101)

Pentachlorophenol, 6.1, UN 3155, PG II, RQ

PLACARD REQUIRED

POISON, 3155, Class 6

LABEL REQUIRED

POISON, Class 6
Label as required by EPA and by OSHA Hazard Communication Standard, and any applicable state and local regulations.

IMO REQUIREMENTS

EmS No.: 6.1-02 MFAG Table No.: 711 Marine Pollutant IMDG Code Page: 6217

SECTION 15 REGULATORY INFORMATION

U S FEDERAL REGULATIONS

REPORTABLE QUANTITY (RQ)

Reportable Quantity (RQ) is 10 lbs.

TOXIC SUBSTANCES CONTROL ACT

Listed on TSCA Inventory

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III

Components identified with an asterisk (*) in Section 2 are subject to the reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372.

SARA HAZARD CATEGORIES (40 CFR 370.2)

HEALTH: Immediate Health, Delayed Health

INTERNATIONAL REGULATIONS

CANADA

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION

WHMIS Classifications applicable to this product:
D-1A (Very Toxic Material) based on assignment to TDG Class 6.1, PG II
D-2A (Very Toxic Material) based on classification as 2B carcinogen by IARC

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)

All components of this product are on the Domestic Substances List (DSL).

HAZARDOUS PRODUCTS ACT

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR).

EUROPE

EINECS No.: 201-778-6

STATE REGULATIONS

CALIFORNIA PROPOSITION 65

The State of California has listed pentachlorophenol, hexachlorodibenzodioxin and hexachlorobenzene under Proposition 65 as chemicals known to the State to cause cancer and hexachlorobenzene as a chemical known to the State to cause birth defects or other reproductive harm. If further information is desired, contact Vulcan Chemicals Technical Service Department.

SECTION 16 OTHER INFORMATION

NFPA RATINGS

Health 3, Flammability 0, Reactivity 0

Medical Emergencies:
Call toll-free 24 hours a day
for emergency toxicological
information 888/211-9412

Other Emergency information:
Call 316/524-5751 (24 Hours)

For any other information contact:
Vulcan Chemicals
Technical Service Department
P O Box 385015
Birmingham, AL 35238-5015
800/873-4898
8 AM - 5 PM, Central Time
Monday through Friday

NOTICE: Vulcan Chemicals believes the information contained herein is accurate; however, Vulcan Chemicals, makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein by any party. The provision of the information contained herein and the provision of information by or reliance on Vulcan's Technical Service Department is not intended to be and should not be construed as legal advice or as ensuring compliance with any federal, state or local laws and regulations. Any party using this product should review all such laws, rules or regulations prior to use.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

ATTACHMENT F

INSPECTION AND SECURITY SCHEDULE

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

INSPECTION AND SECURITY SCHEDULE
Cavenham Forest Industries LLC
Mobile, Alabama

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 INSPECTION FREQUENCY 1
3.0 INSPECTION GUIDANCE 1
3.1 Security Fence Inspection 1
3.2 Monitor and Recovery Wells 2
3.3 Gradient Control System 2
3.4 Final Cover Inspection 3

TABLES

Table F-1 Inspection Schedule

EXHIBITS

Exhibit F-1 Facility Inspection Checklist

INSPECTION AND SECURITY SCHEDULE
Cavenham Forest Industries LLC
Mobile, Alabama

1.0 INTRODUCTION

Presented herein is an inspection schedule for the Cavenham Forest Industries LLC (CFI) facility located in Mobile, Alabama. The facility conducts weekly and daily inspections during normal operation of the facility; however, inspections with written documentation are performed on a regular schedule to ensure proper operation and maintenance of the monitoring systems and facilities.

A report is filed at the facility detailing each inspection. These reports include the date and time the inspection occurred, the name of the person performing the inspection, and any defects observed. Once the defect is corrected, the date and a brief discussion of the actions taken are recorded on the inspection form. An example of an inspection log that will be completed during each inspection is presented as Exhibit F-1.

2.0 INSPECTION FREQUENCY

Inspection of the final cover for the hazardous waste management area and any associated security and monitoring devices is conducted according to the following schedule:

Inspection Frequency	Time Period
1/ month	Remainder of Post-Closure

Inspections are also conducted after any major (25 year, 24-hour storm event) and after any hurricane.

3.0 INSPECTION GUIDANCE

The inspections focus on the security fence, the monitoring and remediation wells, and the final cover for closed hazardous waste units.

3.1 Security Fence Inspection

The fence surrounding the closure is inspected for defects that may breach security or offer a hazard to employees. The security fence is inspected to insure the following:

- All signs are legible and adequately fastened,
- Fence posts are vertical and properly anchored,

- Gate is securely locked, and fastening hardware is in good order,
- Proper tension of fence fabric and lower tension line,
- Fence fabric is properly secured to the fence post,
- Proper tension of fence parapet,
- Fence and parapet adequately secured to fence posts, and
- No tears in fence fabric,
- Emergency contact phone number, name and address of facility owner/operator is posted at access gates.

3.2 Monitor and Recovery Wells

Monitor and recovery wells are maintained to insure the quality of the groundwater samples. Each inspection consists of:

- Inspection of the exposed stand pipe to assure integrity,
- Inspection of the protective case to assure proper protection of the stand pipe,
- Inspection of the protective post and concrete pad, and
- Total well depth (to determine degree of siltation in wells that have a history of siltation or suffer from poor performance).

3.3 Gradient Control System

The water table within the hazardous waste management area is maintained such that a negative hydraulic gradient exists between the area inside and the surrounding aquifer. The Gradient Control System consists of internal piping and a collection sump with pump for maintaining the depressed water table. The system is inspected to insure proper operation of the pump and piping, including:

- Inspection of liquid-level pump control and calibration:
- Inspection to assure proper function of pump;
- Inspection to assure that effluent collection sump is free of excessive silt;

- Inspection to assure that sump pump discharge pipes are free of leaks; and
- Inspection of clean-out risers for cracked or missing caps.

3.4 Final Cover Inspection

The inspector observes the final cover of the hazardous waste management area for such defects as erosion gullies, loss of vegetated cover, cracking or settlement of the final cover, burrowing or other animal activities that may disturb the final cover, the presence of perennial woody vegetation, and slumping or sliding of the final cover.

TABLE F-1
Inspection and Security Schedule

Facility Inspection Schedule

TABLE F-1
Facility Inspection Schedule

ITEM	INSPECTION PARAMETERS	FREQUENCY[1]
Final Cap Vegetation	Bare or dead vegetation areas. Deep rooted or other non-grassy vegetation (i.e. young trees)	Monthly
Final Cap Integrity	Depressions. Sign of erosion. Cracks or holes. Rodent or animal burrows. Subsidence or slippage. Gas collection system.	Monthly
Drainage Ditches	Signs of erosion. Overgrown with vegetation or blockage.	Monthly
Survey Benchmarks	Signs of damage.	Monthly
Facility Fences, Gates, and Survey Markers	Damage to fence. Damage to gates. Deterioration of fence.	Monthly
Activated Carbon	Leakage. Corrosion. 2-foot freeboard. Evidence of overflow.	Monthly
Effluent System Piping	Leaking. Swelling. Corrosion.	Monthly
Effluent System Pumps	Leaking. Excessive vibration or noise.	Monthly
Monitor Wells	Signs of damage to guard posts, casing or pipe	Monthly
Recovery Wells	Signs of damage to guard posts, casing or pipe	Monthly
Injection Wells	Signs of damage, leaks or malfunctions	Monthly

NOTES: 1= Refers to section 2.0 of Facility Inspection Schedule text.

EXHIBIT F-1
Inspection and Security Schedule

Facility Inspection Checklist

FACILITY INSPECTION CHECKLIST
Cavenham Forest Industries, Inc.
Mobile, Alabama

MONTH:_____ YEAR:_____

ITEM	STATUS PASS (P) or FAIL (F) WEEK 1	2	3	4	5	IF FAILED, RECOMMENDED REMEDIAL ACTION	DESCRIPTION OF REMEDIAL ACTION PERFORMED & DATE COMPLETED
SECURITY FENCE							
1. Fence within 5% of vertical.							
2. Fabric in good condition and all fabric ties present and connected. Top rail and bottom tension wire connected.							
3. All linepost, pull posts and gate posts are structurally sound and free of significant corrosion. Posts do not move significantly when pushed.							
4. All compression braces properly bolted and free from significant corrosion.							
5. Tension members properly tensioned and free from corrosion.							
6. Angle arms for barbed wire parapet securely attached to top of fence and free from corrosion. Three (3) continuous strands of barbed wire securely attached to angle arms.							
7. Gates in working order with all components meeting specifications as for fence. Gate kept locked.							
8. Warning signs in readable condition spaced a minimum of every 100 feet. Each sign securely attached at eye level with four (4) metal ties.							
DRAINAGE DITCHES AND NPDES OUTFALL							
9. All ditches free of excess debris, vegetation, siltation, oil, or oily sheen.							
10. Ditch side slopes free of sloughing, caving, or other signs of excessive erosion. Ditches vegetated above normal water levels.							
11. Inspect ditch bank for evidence of contaminant seeps or oily stains.							

FACILITY INSPECTION CHECKLIST
Cavenham Forest Industries, Inc.
Mobile, Alabama

FACILITY COVER							
12. Inspect grass for normal appearance (appearance dependent on season). Inspect any brown or bare patches for signs of insect infestation.							
13. All areas above normal ditch water elevations vegetated with appropriate cover species.							
14. Inspect cover for signs of any woody vegetation. Immediately remove any woody vegetation over 6" tall.							
15. Inspect cover for signs of excessive erosion such as gullying.							
16. Inspect cover for signs of failure such as sloughing, cracking, heaving, or other movement.							
17. Inspect rip-rap along facility cover for bare spots, sloughing or other movement.							
GAS VENTING SYSTEM							
18. All risers properly installed. Removed risers and use flexible wire or snake to check and, if necessary, clear inside of riser and below ground portions of the vent.							
BENCHMARKS							
19. Locate all benchmarks and inspect for signs of disturbance. Check to make certain brass caps are present and firmly secured.							
TOPSOIL DRAINAGE SYSTEM							
20. Unobstructed drain.							
21. Drain free from damage.							
22. Rip-rap at drain outlets in place.							
MONITORING WELLS							
23. Check for damage to guard posts, protective casing or riser pipe.							
24. Protective casing locked.							
RECOVERY WELLS							
25. Damage to recovery wells, protective casing or riser pipe.							
26. Protective casing secure.							

INJECTION WELLS							
27. Damage to guard posts, protective casing or riser pipe.							
28. Signs of leaks.							
29. Signs of malfunction or damage.							
GRADIENT CONTROL SYSTEM							
30. Inspection of liquid-level pump control.							
31. Sump pump functioning properly.							
32. Discharge piping free of leaks.							
33. Clean out risers have caps in place and are free of cracks, etc.							
GROUNDWATER TREATMENT UNIT							
34. No leaks observed from storage and treatment tanks, carbon towers, or recovered oil storage tank and associated piping and valves.							
35. All treatment and storage unit drainage valves are maintained in the closed position and locked as appropriate.							
36. All operating equipment such as pumps and motors are in good working order and show no signs of malfunction, such as lubricant leaks.							
37. Containment walls and floor are in good condition with no breaks or cracks.							
38. Storm water accumulation within bermed areas is visually free of potential site contaminants (i.e. no surface sheen).							
39. High level float switches within the treatment unit are free of obstruction, are in good working condition, and are working properly.							
40. The level of oil in the Recovered Oil Storage Tank is _____							

FACILITY INSPECTION CHECKLIST
Cavenham Forest Industries, Inc.
Mobile, Alabama

GENERAL HOUSEKEEPING							
41. All inside and outside work and storage areas are in a neat and orderly condition.							
42. All trash, garbage, and waste material on this site is regularly picked up and disposed of. There are no unsafe, unsightly, unsanitary, excessive accumulations.							
43. All equipment unused or in good, clean condition. a. 2 flat, square-edged shovels. b. 2 chemical cartridge respirators with organic vapor cartridges. Check expiration date. c. 2 spare organic vapor cartridges. Check expiration date. d. 4 disposable impermeable coveralls (Large size) e. 4 pair impermeable rubber gloves. f. 2 pair steel-toed rubber boots (1 pair size 10, and 1 pair size 12). g. 2 plastic hard hats. h. 2 pair protective eyewear. i. First-aid cabinet (check list on cabinet door). j. 2 bales of absorbent pads.							

Certification:

Week 1 - Inspector:_____ Date/Time:_____ Signed:_____

Week 2 - Inspector:_____ Date/Time:_____ Signed:_____

Week 3 - Inspector:_____ Date/Time:_____ Signed:_____

Week 4 - Inspector:_____ Date/Time:_____ Signed:_____

Week 5 - Inspector:_____ Date/Time:_____ Signed:_____

ATTACHMENT G

PERSONNEL TRAINING PLAN

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

PERSONNEL TRAINING PLAN
Cavenham Forest Industries LLC
Mobile, Alabama

Table of Contents

1.0 INTRODUCTION 1
2.0 PURPOSE 1
3.0 RESPONSIBILITY 1
4.0 PROCEDURE 2
5.0 TIMING 3
6.0 DOCUMENTATION 3

EXHIBITS

Exhibit G-1 Job Descriptions

PERSONNEL TRAINING PLAN
Cavenham Forest Industries LLC
Mobile, Alabama

1.0 INTRODUCTION

The personnel training programs for Cavenham Forest Industries LLC (CFI) are designed to instruct employees in the proper precautions and handling procedures for the K001 hazardous waste that is managed at the site, and implementation of the proper emergency response procedures in the event of a spill, fire, or other hazard. The goal of the program is to insure the protection of human health and the environment through proper management of hazardous waste. This plan meets the regulatory requirements of ADEM Administrative Code Rule 335-14-5-.02(7).

Revised job descriptions for personnel employed at Cavenham's closed Mobile, Alabama facility are included in this plan as Exhibit G-1.

2.0 PURPOSE

This plan is written to establish procedures for the initial training and subsequent retraining of facility personnel in the proper techniques for handling, storing, shipping and disposing of hazardous wastes, and the hazards associated with hazardous waste. Special emphasis is placed on the listed waste K001 whenever possible. It is also written to establish procedures for the documentation required to substantiate training and retraining of facility personnel. A "facility" is defined as each individual operating and maintenance department within the complex.

3.0 RESPONSIBILITY

CFI is responsible for assuring operators and employees are trained in procedures involving the handling, storing, shipping and disposal of RCRA hazardous waste, with emphasis on K001, as appropriate. All operators and or employees are trained by instructors that are professionally qualified to provide this service.

Records are maintained by the personnel that substantiate the training and retraining required for handling, storing, shipping and disposal of hazardous waste. This includes the operating fundamentals training of all new operating personnel. It also includes documentation of any additional and/or annual classroom and on-the-job hazardous waste management training for new or regular personnel. This information is maintained by the employee and the personnel department of the employee's company. A copy of the training record is maintained on-site for each person working at the facility.

4.0 PROCEDURE

Facility personnel involved with the management of hazardous waste receive documented classroom and/or on-the-job training on proper techniques required to safely and effectively perform such activities and respond to emergency situations. All personnel have previously received the operating fundamentals training and a forty (40) hour Hazardous Waste Health and Safety classroom training course which meets the requirements of the Occupations Safety and Health Administration (OSHA) regulation 1910.120.

Hazardous waste training includes as a minimum for all personnel engaged in hazardous waste operations the following subjects:

- The definition and identification of hazardous wastes
- A brief overview of federal and state regulations regarding hazardous wastes

While the waste water treatment plant is operating, the following operational subjects are included in the on-the-job training program:

- Operational fundamentals training
- Implementation of the Contingency Plan
- Automatic shutdown/cut off systems on waste streams
- Emergency shutdown systems for an operating unit
- Response to fires or explosions
- Response to spills or other releases of hazardous waste
- Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment

On-the-job training is conducted until the operator is assured of the workers' capabilities and understanding of the management of his/her work area as it relates to hazardous waste management. This training includes a review of the Material and Safety Data Sheets for the materials or waste constituents workers may be exposed to and, where applicable, address the following items:

- Appropriate D.O.T. regulations for shipping waste
- Operating hazardous waste treatment and disposal equipment and facilities

- Storing of hazardous waste including the appropriate containers and their use and markings
- Inspections of hazardous waste treatment, storage and disposal facilities
- Disposition of off-specification hazardous materials
- Disposition of spill clean up waste from a hazardous spill
- Loading and manifesting of hazardous waste for off-site disposal
- Disposition of equipment and containers contaminated with a hazardous material
- Principles of health and safety
- Personal protective equipment usage
- Management and disposal options for wastes
- Waste accumulation time periods and locations
- Review of Contingency Plan (Annually)

5.0 TIMING

Facility personnel working in a position which involves the storage, loading, inspection, treatment, handling and disposal of hazardous materials must successfully complete this course within six (6) months after assignment to the position. Retraining courses must be completed annually.

6.0 DOCUMENTATION

Copies of all training records for on-site personnel are kept in a file in the facility's office building. To document training, these records include final certificates, sign-up sheets, and courses' names, dates and subject areas.

EXHIBIT G-1
Personnel Training Plan

Job Descriptions

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

NAME: James Davis

JOB TITLE: ENVIRONMENTAL SUPERVISOR

JOB DESCRIPTION: The Environmental Supervisor coordinates the day-to day activities at the site of contractors, consultants and other employees. A listing of some of the specific duties are provided below:

- Assignment of daily tasks for Environmental Technicians that are working at the site.
- Maintenance of site files containing copies of the Permits, manifests, and correspondence with agencies. Completion of discharge monitoring reports.
- Coordination and implementation of site monitoring activities associated with corrective action, groundwater and surface water discharges (NPDES or State Discharge Permit).
- Supervision of contractors and consultants conducting work at the site.
- Coordination of employee physicals and personnel training.
- Instruction of employees on proper analytical procedures for conducting on site chemical analyses (pH, specific conductance, temperature, dissolved oxygen, oil and grease, and chemical oxygen demand).
- Scheduling of hazardous waste shipments and tracking of manifests.

TRAINING:

OSHA 40 hour health and safety training, initially; 8 hour annual refresher.

DOT hazardous material transportation training at least once every two (2) years.

Site specific RCRA training. Includes initial and annual review of Contingency Plan, SPCC Plan, operation and maintenance discussions, groundwater monitoring, and manifesting.

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, AL

NAME: JEFF GONSOULIN

JOB TITLE: ENVIRONMENTAL TECHNICIAN

JOB DESCRIPTION: The Environmental Technician assists the Environmental Supervisor in monitoring and maintenance activities. A listing of some of the specific duties are provided below:

- Assist Environmental Supervisor in site monitoring activities associated with corrective action, groundwater and surface water discharges (NPDES or State Discharge Permit).
- Maintenance of the various components of the water treatment system (compressors, pumps, valves, etc).
- Maintenance of the site grounds including seeding, grass cutting, and erosion repair and control. Operation, maintenance and repair of tractor and backhoe.
- Maintenance, installation and replacement of pumps, valves, meters and other groundwater corrective action system components.
- Provide monitoring, operation, maintenance and preventive maintenance of the water treatment system.

TRAINING:

OSHA 40 hour health and safety training, initially; 8 hour annual refresher.

DOT hazardous material transportation training at least once every two (2) years.

Site specific RCRA training. Includes initial and annual review of Contingency Plan, SPCC Plan, operation and maintenance discussions, groundwater monitoring, and manifesting.

ENVIRONMENTAL
MANAGEMENT SERVICES, INC.

May 6, 2004

Mr. Michael Molires
Alabama Department of Environmental Management
Land Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110

Re: CAMU Certification Report
Cavenham Forest Industries, Inc. - Mobile, AL
ALD 057 226 904

Dear Mr. Molires:

In April 1995, Cavenham Forest Industries, Inc. (CFI) requested a modification to their Hazardous Waste Permit for the site referenced above to conduct on-site treatment of the surficial soils. The project included the permitting and construction of two corrective action management units (CAMUs) for management of the soils, treatment of soils excavated from several of the solid waste management units and areas of concern, and closure of the CAMUs. CFI has completed the project and the attached report provides documentation of the on-site activities and Certification of Closure.

If you have questions or require additional information, please call either Winston Russell or Clyde Woodward at (601) 544-3674.

Sincerely,

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

C. Winston Russell, P.G.
Vice President

c: Lewis Hobbs, CFI - Mobile

P.O. BOX 15369 (39404) • 6280 U.S. HIGHWAY 49 • HATTIESBURG, MISSISSIPPI 39401
PHONE (601) 544-3674 • FAX (601) 544-0504 • info@env-mgt.com

CAMU CERTIFICATION REPORT

CAVENHAM FOREST INDUSTRIES INC.
MOBILE, ALABAMA
ALD 057 226 904

Prepared by:
Environmental Management Services, Inc.
P. O. Box 15369
Hattiesburg, MS 39404

May 6, 2004

TABLE OF CONTENTS

		Page No.
1.0	INTRODUCTION	1
2.0	SITE LOCATION	2
3.0	OBJECTIVES	3
3.1	Initial Soil Bioremediation Program	4
4.0	CONSTRUCTION	5
4.1	Central CAMU	5
4.2	North CAMU	5
4.2.1	Excavation and Sampling of Subgrade	5
4.2.2	Subgrade Preparation and Baseline Soil Sampling	5
4.2.3	Perimeter and Interior Berms	6
4.2.4	Stormwater Sedimentation Basin	6
4.2.5	Liner Protection Basin Layer	6
4.2.6	Geomembrane Lining System	6
4.2.7	Liquids Handling System	6
4.2.8	Decontamination Area and Vehicle Access Ramps	7
4.2.9	Work Pad	7
4.3	Construction Certification	7
5.0	CENTRAL CAMU OPERATIONS	8
5.1	Soil Excavating	8
5.2	Soil Screening	8
6.0	NORTH CAMU BIOTREATMENT OPERATIONS	9
6.1	Organic Amendments	9
6.2	Other Soil Amendments	9
6.3	Windrow Building	9
6.4	Windrow Turning	10
6.5	Moisture Control	10
6.6	Operational Monitoring	10
6.6.1	Windrow Field Parameters	10
6.6.2	Windrow Laboratory Parameters	11
6.7	Treated Soil Confirmation Sampling and Analyses	11
6.8	Treated Soil Backfilling	12
7.0	TREATED AREAS	13
7.1	North Area	13
7.2	South Area	14
7.3	Central Area	14
7.4	New Area Behind Tank Farm	15
7.5	18-Inch Diameter Culvert	16
8.0	CLOSURE OF CAMUs	17
8.1	Closure of Central CAMU	17
8.2	Closure of North CAMU	17
8.2.1	Decontamination and Removal	17
8.2.2	Verification of Subgrade	18
8.2.3	Grading and Revegetation	18
9.0	CERTIFICATION	19

LIST OF TABLES

Table 1	Solid Waste Management Units (SWMUs) and Areas of Concern (AOC)
Table 2	Site Specific Risk Based Action Levels (RBALs)
Table 3	North CAMU Construction Confirmation Sample Analytical Summary
Table 4	Baseline Sample and Confirmation to Baseline Sample Analytical Summary
Table 5	Analytical Summary of Windrow Operations
Table 6	Analytical Summary of Samples by North Tar Deposit Area
Table 7	Analytical Summary of Samples by South Area
Table 8	Analytical Summary of Samples by Central Area
Table 9	Analytical Summary of Culvert Area
Table 10	Analytical Summary of Closed Central CAMU
Table 11	Analytical Summary of HDPE Geomembrane Liner Wipe Samples
Table 12	Analytical Summary of Tank Sediments

LIST OF FIGURES

Figure 1	Site Location Map
Figure 2	Estimated Extents of Regulated Units
Figure 3	North CAMU and Central CAMU Locations
Figure 4	North CAMU Construction Confirmation Sample Locations
Figure 5	Baseline Sample and Confirmation to Baseline Sample Locations
Figure 6	North CAMU Layout
Figure 7	SWMU and AOC Excavations Locations

LIST OF APPENDICES

Appendix A	North CAMU Construction Confirmation Laboratory Data Sheets
Appendix B	Baseline Sample and Confirmation to Baseline Laboratory Data Sheets
Appendix C	Windrow Operations Laboratory Data Sheets
Appendix D	North Tar Deposit Area Laboratory Data Sheets
Appendix E	South Area Laboratory Data Sheets
Appendix F	Central Area Laboratory Data Sheets
Appendix G	Culvert Area Laboratory Data Sheets
Appendix H	Closed Central CAMU Laboratory Data Sheets
Appendix I	HDPE Geomembrane Liner Wipe Laboratory Data Sheets, Manifests, and ADEM Correspondence
Appendix J	Tank Sediments Laboratory Data Sheets

EXECUTIVE SUMMARY

In April, 1995, Cavenham Forest Industries, Inc. (CFI) requested a modification to Hazardous Waste Post-Closure Permit ALD 057 226 904, which governs post closure care and corrective action for the closed hazardous waste management units, solid waste management units (SWMUs) and areas of concern (AOCs) identified at the Mobile, Alabama facility. The modification proposed an aggressive soil remediation program to remediate impacted soils located between ground surface and the water table, as identified in previous investigations.

The objective of the remediation was to reduce the concentration of wood treating constituents to below risk-based action levels in all areas of the site that have contaminated soil either exposed at the surface or present in the vadose zone. From an occupational health risk view this approach would alleviate worker exposure concerns and allow development of portions of the property. From a regulatory view, the action treated the soils in several solid waste management units and areas of concern to below health based standards, completing soil treatment in these areas and removing potential source contaminants that may migrate into the shallow groundwater.

The plans for the remediation project were presented to the Alabama Department of Environmental Management (ADEM) in 1995. The *Soil Corrective Action Work Plan (April 1995)* called for the construction of two (2) corrective action management units (CAMUs) at the facility. These CAMUs would be used for: 1) stockpiling on-site soils that required remediation; 2), as a staging area to separate debris from the soils; and 3), to serve as a treatment area for soils undergoing biological treatment. All soils placed within the CAMUs were treated to below risk-based action levels and subsequently returned to the areas from where they were excavated or used elsewhere on-site as general fill. Following completion of the soil remediation these CAMUs were closed in accordance with the Post-Closure Permit and *Soil Corrective Action Work Plan.*

Environmental Management Services, Inc. (EMS) was retained by CFI to ensure that the *Soil Corrective Action Work Plan* for the facility would be implemented as desired. EMS provided oversight of the CAMU construction activities, excavation of the targeted soil, operation of the CAMUs, and closure of the CAMUs. Based on observations, laboratory and field testing results, and the data presented herein, EMS certifies the facility has met the requirements as outlined in the *Soil Corrective Action Work Plan* of April 1995.

1.0 INTRODUCTION

Cavenham Forest Industries Inc. (CFI) maintains a closed site in Mobile, Alabama that formerly produced treated wood products. The manufacturing process utilized creosote and pentachlorophenol under elevated temperature and pressure for preservative treatment of poles and piling. Wood treatment operations at the site ceased in 1980, and the years since have been spent dismantling the former operations, closure of the operational waste management units, and conducting post-closure monitoring and remediation. These activities were done both prior to issuance and under the direction of Alabama Department of Environmental Management (ADEM) Hazardous Waste Management Post-Closure Permit (ALD 057 226 904), issued by ADEM on February 5, 1991. This certification report for soil corrective action activities describes work conducted under an April 1995 modification to the Post Closure Permit.

In April 1995, CFI proposed a modification to Post Closure Permit ALD 057 226 904 (Permit) to conduct on-site soil remediation. This modification, which permitted activities outlined in the *Soil Corrective Action Work Plan* (Plan), included:

- A modification of the site *Corrective Action Plan* (CAP) for soil;
- Designation of two Corrective Action Management Units (CAMU); and
- Submittal of risk-based action levels for cleanup of soils by bioremediation, including a "contained-in" decision.

The Permit modification enhanced and expedited soil bioremediation activities by including provisions for excavating on-site contaminated soils to the water table and moving the soils to two permitted Corrective Action Management Units (CAMUs) for treatment. Within the CAMUs, the soils were treated using biological composting techniques to reduce the concentrations of wood treating constituents to below risk-based action levels.

Following ADEM approval of the Permit modification in December 1996, the two CAMU units were constructed as proposed in the Plan: the North CAMU and Central CAMU areas. The North CAMU was designed to serve as the primary soil treatment area, while the Central CAMU acted as a soil screening, stockpiling and staging area. The soils treated within these CAMUs were excavated from areas identified as Solid Waste Management Units (SWMU) and Areas of Concern (AOC) in the RCRA Facility Assessment (RFA).

Within the CAMUs, the soils were screened to remove debris, shaped into windrows, and bioremediated to meet the established health-based cleanup criteria. The bioremediated soils were then sampled to confirm that cleanup criteria were achieved before returning the soils to the excavated areas on-site. A total of approximately 32,365 cubic yards of contaminated soil were excavated and treated in the CAMUs. Soil screening in the Central CAMU began in November 1997 and final treatment of all soil was completed in January 2002.

The CAMUs were closed in accordance with Section 9.0 of the Plan following treatment of the final windrow of soil. The closure included removal of all treated soils, decontamination and disposal of the North CAMU geomembrane, cleanout of the stormwater collection tanks used in the operation of the CAMUs, laboratory analysis of soils beneath the North CAMU, and grading and seeding the site.

2.0 SITE LOCATION

CFI's Mobile facility is positioned near north latitude 30° 43' 46" and west longitude 88° 03' 01" on the north side of the city of Mobile, Alabama. The facility's physical address is the south end of Herbert Street and it is located just south of the Herbert Street intersection with Bay Bridge Road (see Figure 1).

The site is situated in a principally flat, low lying area, with site elevation ranging between 0 and 16 feet relative to the National Geodetic Vertical Datum (NGVD), the greater elevations being associated with the closed hazardous waste landfill. The site is in an industrial area that is bounded on the north by the Star Paper Company warehouse area and on the west by Kimberly-Clark (formerly Scott Paper Company) solid waste landfill and warehouse. The east boundary of the site is an elevated railroad embankment. Immediately east of this embankment is the EOTT Energy petroleum bulk storage facility. The southern border of the property is Three Mile Creek. South of Three Mile Creek on the opposite bank from the facility is a marine dock and railroad yard operated by the State of Alabama.

3.0 OBJECTIVES

The *Corrective Action Plan* (CAP) of July 1992 identified three areas where in-situ bioremediation of wastes would occur: the North Tar Deposit Area, the Creek Tar Deposit Area, and the Central Area (referred to as Cylinder Area in the CAP). Following approval of the CAP, a fourth area of contaminated soil was identified at the site, referred to as the New Area Behind Tank Farm. The *Soil Corrective Action Plan* (Plan) of April 1995 included all four of these areas as sites for bioremediation. Preliminary soil volume calculations estimated that approximately 30,000 cubic yards of soil were contained in the four areas identified:

Name	Estimated Soil Volume (cy)
Central Area	22,000
North Area	2,600
South Area	4,000
New Area Behind Tank Farm	1,400

These areas and the associated regulated units as identified in the RFA are listed in Table 1 and shown on the Estimated Extents of Regulated Units, Figure 2.

The primary objective of the amended Plan (April 1995) was to excavate and bioremediate the contaminated soils from the four principal contamination areas identified above. A secondary objective was to consolidate the bioremediated soils in the Central CAMU; however, the Permit did not require this activity and the treated soil was placed back into the area from which it was excavated or used as general fill at other on-site locations.

Site-specific soil contamination risk-based action levels (RBALs) were developed for the bioremediation activities. The RBALs were provided to ADEM in the document Health Risk-Based Action Levels (FWENC, April 1995). These soil RBALs were established as follows:

- 25 milligrams per kilogram (mg/kg) for the total carcinogenic poly aromatic hydrocarbons (PAHs)
- 250 mg/kg for the total noncarcinogenic PAHs
- 15 mg/kg for pentachlorophenol
- 65,000 mg/kg for 2,4,6-Trichlorophenol.

These constituents and the associated RBALs are shown in Table 2.

As further described below, to meet the RBALs for carcinogenic and non-carcinogenic PAH levels, a two phased soil bioremediation program was implemented to treat the contaminated soils.

3.1 Initial Soil Bioremediation Program

The purpose of the initial soil bioremediation program was to demonstrate the feasibility of treating contaminated soils, to develop waste-specific degradation rates, and to optimize biotreatment methods/criteria. These activities were conducted within the central CAMU.

Contaminated soils were initially placed within the Central CAMU in a diked area approximately 120 feet wide and 650 feet long. The soils were placed in a single windrow, and bioremediated using soil amendments, bacteria, and mechanical disturbance during the construction of the North CAMU. Different operating scenarios were tried to help establish optimum bioremediation techniques. After the most efficient bioremediation methods were determined, the Central CAMU was used as an area to stockpile and screen the soils prior to transfer to the North CAMU for final treatment. The locations of the Central and North CAMU are indicated on Figure 3.

3.2 Final Soil Bioremediation Program

During the initial bioremediation phase, the North CAMU was constructed. This area was a bermed area that measured approximately 280 feet wide by 450 feet long and was underlain with a High Density Polyethylene (HDPE) geomembrane liner to protect the natural soils from the constituents of concern. The underlying soils and HDPE liner were further protected with an 18-inch soil work pad. Following screening to remove debris in the Central CAMU, soils with contaminant levels that exceeded the RBALs were placed in windrows in the North CAMU for treatment. The composting treatment process and schedule were determined by laboratory analytical results for RBAL constituents and were continuously refined during the project life.

4.0 CONSTRUCTION

The North and Central CAMUs were constructed between December 1996 and October 1997 at the locations indicated on Figure 3. The certification report, prepared by Aquaterra and submitted in March 1998 was titled *CAMU Construction Quality Assurance Documentation and Certification of Earthwork Construction.*

4.1 Central CAMU

The Central CAMU was constructed by creating a 2-foot high berm east, north, and south of the operating area. The north and south berms interconnected with the east RCRA facility road to form a complete containment area, approximately 120 feet wide by 650 feet long. Within the containment area, an excavation was made to the top of the sand in the T-2 groundwater recovery French drain. The containment area sloped toward this excavation to allow the French drain to collect any stormwater impacted by contact with contaminated soils. Water collected in the French drain was pumped to one of the three storage tanks located in the tank farm north of the RCRA closure facility and ultimately to the on-site recovered groundwater treatment system.

4.2 North CAMU

Construction of the North CAMU included excavating and laboratory analysis of the subgrade, subgrade preparation and baseline sampling, a stormwater sedimentation basin, a liner protection base layer, a geomembrane lining system, a liquids handling system, decontamination area and vehicle access ramps, and a work pad. Figures 4, 5, and 6 show excavation locations, sample locations, and a construction "As-Built" Plan for the North CAMU.

4.2.1 Excavation and Sampling of Subgrade

Prior to construction of the North CAMU, eight areas within the proposed CAMU foot print were excavated either due to the presence of contamination and/or due to the presence of material unsuitable for use as a sub-base. Subgrade soils were excavated within the footprint of the berm (see Section 4.2.3) and beneath a wood chip storage area. After removal of visually contaminated material, soil samples were collected and analyzed to confirm that the target constituent concentrations were below the approved action levels. Confirmation samples were collected from both the perimeter (samples labeled with a "P") and bottom (samples labeled with "B") of each excavation. If a perimeter or excavation bottom sample failed, the excavation was expanded and resampled until side wall and excavation bottom samples passed. Figure 4 shows the areas that were excavated and the confirmation sample locations. The results of the confirmation sampling program are summarized in Table 3 and the actual laboratory data sheets are presented in Appendix A.

4.2.2 Subgrade Preparation and Baseline Soil Sampling

Subgrade preparation included proof rolling of the construction area and grading the compacted fill to design elevations. Following subgrade preparation, baseline subgrade soil samples were collected and analyzed from the top six inches at 12 locations (BL-01 through BL-12). To verify the integrity of the CAMU liner system, confirmation samples (CBL-01 through CBL-12) were

collected at the same baseline locations after the CAMU was decommissioned. Figure 5 shows the baseline and confirmation sample locations. Both the baseline and confirmation samples were analyzed for the constituents presented in Table 2. Results of the sampling program are presented in Table 4 and the actual laboratory data sheets are presented in Appendix B.

4.2.3 Perimeter and Interior Berms

Imported clay material was used to construct the perimeter and interior berms. These berms were compacted and tested in six- to nine-inch lifts. The berms ranged from three to five feet in height.

4.2.4 Stormwater Sedimentation Basin

A sedimentation basin was formed by the south perimeter berm and a single interior berm. North to south drainage laterals were installed at 50-foot intervals in the treatment area as shown in Figure 6. These drainage laterals were installed on top of the geomembrane liner and connected to a header trench drain installed along the southern interior berm. The header trench emptied into the east end of the sedimentation basin. This basin served as a stormwater collection area designed to allow sufficient retention time for suspended solids to settle prior to recovery. The basin included three concrete weirs designed to retard the flow of stormwater through the sedimentation basin and allow sediments to settle prior to reaching the collection sump near the southwest corner of the unit.

4.2.5 Liner Protection Basin Layer

Prior to the installation of a HDPE geomembrane liner, a four-inch protective layer of fine sand was placed on the prepared subgrade. This layer's purpose was to insure that any material prevalent in the prepared or in-situ subgrade would not puncture the liner.

4.2.6 Geomembrane Lining System

A 60-mil HDPE liner was installed throughout the North CAMU to ensure that the subgrade soils would not be contaminated during biological treatment.

A certification letter from Aquaterra Engineering entitled "CAMU *Construction Quality Assurance Certification of Geosynthetics Liner Installation*", dated July 29, 1997 detailed the liner installation process.

4.2.7 Liquids Handling System

A moisture addition system, as shown in Figure 6, was installed to hydrate the contaminated soils as warranted. This system was connected to the header drain trench located along the southern interior dike, and utilized recycled stormwater. Liquids were handled with pump controllers, level indicators and flow meters.

4.2.8 Decontamination Area and Vehicle Access Ramps

A decontamination pad was installed along the west end of the sedimentation basin. The decontamination pad included a double layer of 12-ounce woven geotextile to protect the underlying HDPE geomembrane liner; approximately 1.5 feet of sand; an 8-ounce woven geotextile; and a layer of crushed limestone. Ramps for access to the decontamination pad and access to the east side of the North CAMU were constructed of crushed limestone. Prior to placing the limestone, a double layer of 12-ounce woven geotextile and 12 inches of clayey sand were placed to protect the underlying HDPE geomembrane liner.

4.2.9 Work Pad

An 18-inch thick work pad was placed on top of the 60-mil HDPE liner as protection for windrow operations. As described in Section 4.2.4, drainage laterals were constructed within the work pad to facilitate the flow of liquids to the header trench drain. The work pad consisted of contaminated sandy soils excavated from select areas on site. These sandy soils were screened prior to placement in order to remove any debris larger then two inches and ferrous metals.

4.3 Construction Certification

Certification of the North CAMU construction is detailed in a March 1998 Aquaterra Engineering document titled *CAMU Construction Quality Assurance Documentation and Certification of Earthwork Construction.*

5.0 CENTRAL CAMU OPERATIONS

All areas were cleared and grubbed clean of debris before any soils were excavated. Further discussion of the treatment of this debris is presented in Section 7.3. Operations at the Central CAMU were characterized by screening and stockpiling excavated contaminated soils.

5.1 Soil Excavating

The biotreatment operation began with excavation of the contaminated soil found within the North Area, South Area, and Central Area. Once soil was excavated, it was loaded and transported to the Central Area, where debris was removed by the shaker screen described in Section 5.2. Soils in the North Area and South Area were excavated and processed for treatment in the North CAMU before the Central Area soils were excavated.

The presence of odor and visual staining were the principal methods for determining whether soils were to either be sampled or excavated. Those soils with obvious visual staining or odors were excavated for treatment. Following excavation, the areas around the excavation were sampled to insure compliance with the Plan. Descriptions of the excavation and sampling in the individual areas are described in Section 7.

Portable dewatering pumps were located in the excavation areas during construction activities to remove accumulated stormwater. Water was pumped to the North CAMU collection sump or directly to the storage tanks using above ground temporary piping. Pipelines entered the tanks from the top (to prevent back flow) and were continuously inspected during pumping.

5.2 Soil Screening

After transport from the excavations, the contaminated soil was screened using a twin shaker screen (manufactured by Power Screen, Inc). The first screen removed coarse debris (approximately six inches by six inches and larger) and the second screen removed debris larger than two inches. The screened soil was transferred to either a dump truck or to a soil stockpile using a conveyor belt. The conveyor belt transferred the soil and also removed ferrous metals via an electromagnet. The screening operation was located within the Central Area CAMU so that soils could be screened, then temporarily stockpiled.

Material retained by the shaker screens consisted mainly of broken pieces of creosote treated piling, rail ties, and utility poles, but also included roots and other debris generated from the soil screening process. The woody material was pulverized by a mobile unit that delivered the processed material to a waiting dump truck. The dump truck delivered the material to the North CAMU for treatment.

After contaminated soils were screened and stockpiled in the Central CAMU, they were transported to the North CAMU for biological treatment.

6.0 NORTH CAMU BIOTREATMENT OPERATIONS

Contaminated soils transported from the Central CAMU underwent biological treatment in the North CAMU. The bioremediation process was operated in a "batch mode" cycle, as much as possible. In the batch mode operation, all completed windrows are removed at the same time, when biological treatment has been completed on all windrows in that "batch". However, there were numerous times when some windrows from the batch would pass and be removed while others remained on the work pad to undergo further treatment.

6.1 Organic Amendments

Organic amendments were used to accelerate biodegradation within the windrows by stimulating microbial activity and enhancing constituent degradation rates. Organic materials included chicken manure, fish processing waste, cotton processing waste, wood chips, sawdust and grass clippings. These organic amendments were typically added to the screened soil as the windrows were being formed. The amendment delivery and staging area was located on the west side of the North CAMU. The amendments were loaded onto the pad by backing the delivery truck over the pad and dumping onto the pad. A front-end loader inside the CAMU moved the amendments from the edge of the pad to the windrow.

6.2 Other Soil Amendments

Other soil amendments added to the windrows less frequently than the organic amendments included inorganic fertilizers, lime, and surfactant. Fertilizers were applied by broadcasting (solid) or spraying (liquid). Lime was applied by broadcasting and surfactant by spraying. These amendments were typically applied to the surface of windrows prior to turning.

6.3 Windrow Building

Soil requiring treatment was delivered to the North CAMU from the Central CAMU by dump truck. The soils were placed into the facility by backing the trucks up to the edge of the pad at the loading points (located on the east and west sides of the unit) and end-dumping the soil into the CAMU. From this point the soil was transported to the windrow by front-end loader.

Windrow building was typically accomplished as follows.

- Soil, bulking agents, and organic amendments were moved onto the composting pad with the front-end loader or other available equipment. Materials were dumped and formed in a designed sequence that resulted in a mix of materials.
- The windrow was mixed and aerated with a SCARAB composting machine.
- The edges of the windrow were re-formed with the front-end loader when necessary.

The windrows were a maximum of 360 feet long, approximately 14 feet wide at the base, four feet wide at the top, and five feet high. In some cases, the length of the windrows was shorter depending on the amount of contaminated soil being treated. The windrows were oriented in an east-west direction.

To identify and track windrow placement, each windrow location was assigned an alphabetic slot designation from A to H. Lot A was the northernmost windrow and H was the southernmost. Upon placement, each windrow was assigned a numeric designation corresponding to the batch number. The alphabetic slot designation and the batch number designation provided the windrow identification number. For example, the first batch placed in the northern most windrow location was designated WRA1. The "WR" indicating a windrow and the "A1" indicating this was the first windrow in the "A" location.

All material placed in the windrow was tracked and described in project reports. These reports included, at minimum, information on the area from which the soils were excavated, location of the windrow, and amount and type of amendments.

6.4 Windrow Turning

The windrows were periodically mixed by a SCARAB composting machine. Mixing the windrows helped control the temperature and the oxygen availability to maximize the bioremediation process. Generally, the windrows were turned once per week, or as weather permitted.

6.5 Moisture Control

Windrows were periodically watered to prevent drying of the surface and to maintain proper moisture content in the soils undergoing treatment. Moisture content was a critical operating parameter because the microbes must have sufficient water, but not excessive. Low moisture content restricts the growth of the microbes, while higher moisture content complicates soil handling and reduces oxygen transport. Moisture addition was accomplished by spraying with a hose or by the liquids handling system (See Section 4.2.7).

6.6 Operational Monitoring

CAMU operations were monitored to measure the physical, biological, and chemical parameters throughout the biodegradation process. Operational monitoring required both field and laboratory measurements. Each windrow was periodically monitored from the time of placement through final testing to ensure that the treated soils met the RBALs.

6.6.1 Windrow Field Parameters

Field parameters were established and monitored to ensure that existing conditions provided the most effective biological treatment. Moisture content, oxygen concentration and soil temperature in each windrow were measured with an electronic sample probe. Additionally, a pH meter was used periodically to measure the pH of the treated soils. Discrete monitoring stations near the middle and within 40 feet of the ends of each windrow were used for each monitoring event. Sample probes were generally advanced at each monitoring station perpendicular to the slope of the windrow at the midpoint between the toe and crest. Moisture content and oxygen concentration readings were collected approximately three and six feet into the windrow. Soil temperature readings were collected about two, four and six feet into the

windrow. Samples for pH were collected at a depth of approximately three feet at each monitoring station.

6.6.2 Windrow Laboratory Parameters

Nutrient analysis and microbial counts were measured periodically by collecting samples for laboratory analysis. Grab samples were collected at a depth of approximately three feet at each monitoring station. For each windrow, the grab samples were then combined to form a single composite sample for analysis.

Nutrient monitoring/analysis was performed to assess the optimal frequency of fertilizer application during the bioremediation process. Microbial counts were conducted to determine whether a sufficient number of colony forming units (cfu) existed to effectively attain the stated RBALs.

6.7 Treated Soil Confirmation Sampling and Analyses

Confirmation samples from each windrow were collected at the end of the scheduled treatment cycle. Soil samples were collected along the length of the windrow at approximate intervals within 40 feet of the ends and at the center along either side of each windrow. A grab sample was collected at an approximate depth of three feet into the slope of the windrow at each interval. These grab samples were combined to form a single composite sample. Samples were analyzed for the constituents listed in Table 2.

Samples were identified by a code that included the corresponding windrow identification and sample number. For example, a sample collected in the first batch from the most northern windrow would correspond to sample WRA1. In many cases, duplicate samples were taken and analyzed to insure the windrows had met the RBALs. Windrows with failing results continued treatment and were analyzed at a later date using the same sample number.

The noncarcinogenic and carcinogenic PAHs were summed and compared to the RBALs of 250 mg/kg and 25 mg/kg respectively. Similarly, concentrations for Pentachlorophenol and 2,4,6-Trichlorophenol were compared to their respective RBALs of 15 mg/kg and 65,000 mg/kg. If none of the values exceeded the associated RBAL, then the soil was considered adequately treated. If the confirmation samples did not meet the RBALs, then bioremediation would continue and the windrows would be resampled.

Table 5 presents the analytical summary of the windrow operations. This table shows the analytical results prior to biological treatment, results during operational testing, and results of confirmation sampling. The actual laboratory data sheets are presented in Appendix C.

As can be seen in Table 5, some of the windrows were analyzed several times before the windrow was considered to meet the RBALs. The table also shows that some of the material placed in windrows did not exceed the RBALs once the windrow was formed. In those cases, this material was handled in the same manner as final treated soils.

6.8 Treated Soil Backfilling

After confirmation sampling had shown that the soil had been treated to the RBALs, the soil was loaded into dump trucks using the front-end loader. The treated soil was transported around the site and end dumped into the various excavated areas. The dumped material was spread, compacted and shaped to promote drainage.

7.0 TREATED AREAS

Samples were collected during the excavation process to confirm that all contaminated soils had been removed from the targeted SWMUs and AOCs. Sampling was originally based on a stratified random sampling scheme. Each soil treatment area was divided into grid blocks. Each grid block was further divided into nine (three by three) sample squares. One sample square was randomly selected from each block, except that squares touching (along either the corner or side) a previously selected square or falling outside of the excavated area were eliminated from the pool of potential sample squares. This sampling approach provided a random, stratified sample even from a non-randomly distributed population.

In order to assure that the lateral extent of the excavation was sufficient, additional soil samples were taken along the perimeter of the excavation. Where possible, specific sample locations were selected so that perimeter samples were not adjacent to a selected sample square (unless the sample square showed obvious signs of contamination.) Otherwise, the sample points were selected in the following order of preference:

- A point exhibiting a drainage pathway,
- The lowest point along the perimeter segment,
- The center of the perimeter segment.

This sampling approach was conservative since sample selection within a randomly selected sample square or perimeter sample segment is biased towards the potentially most contaminated location. However, this sampling regimen was not followed in excavations that encountered groundwater. In those excavations, a sample was quickly collected before groundwater entered and potentially contaminated the sample.

7.1 North Area

In 1998, soil remediation activities were focused on the former North Tar Deposit area (SWMU 22) and the area immediately southeast and east of the North CAMU (Part of SWMU A). During the preparation stage of the excavation, two samples were collected along the perimeter (MO-NA-P01-NE and MO-NA-P02-NE) to a depth of approximately 12 inches and one at the groundwater level (MO-NA-B01-NE) in the proposed excavation area. The analytical results summarized in Table 6 and the data sheets presented in Appendix D indicate that these soils did not meet the RBALs. Sample analysis and odor detection were used in the northeast corner of the site around the T-1 Trench to determine the limits of the excavation, as shown on Figure 7.

Sheet piling was installed in the North Tar Deposit area on the south side of the subsurface oil pipelines that border the north property line. Contaminated soils to the south of the sheet piling were excavated to the depth of first-encountered groundwater, and were then screened and placed in the North CAMU for treatment. A soil sample and duplicate were collected from the bottom of the excavation (MO-NTBS1). The results of the sample and duplicate, including summary data sheets, are summarized in Table 6. The locations of the samples are shown on Figure 7. Approximately 4,050 cubic yards of the soils from this area were remediated during the first half of 1999.

7.2 South Area

In the latter half of 1999 and the first half of 2000, excavation and treatment focused on soils in four excavation areas on the south part of the site near Three Mile Creek (see Figure 7). These excavations targeted SWMU 23, parts of AOC A, and an 18–inch diameter culvert discovered during the excavation. The groundwater table in each of these areas was very shallow. Excavation in these areas was limited to depth of first encountered groundwater.

Seventeen soil samples (MO-SWTP-01 through MO-SWTP-17) were collected around the excavations toward the southwest to assess the boundaries of these excavations (see Figure 7). Samples in these locations were generally collected in the upper 12 inches of the soil. Analytical results are summarized in Table 7 and the laboratory data sheets are presented in Appendix E.

During excavation, seven bottom samples (SW-7-BS1 through SW-7-BS6) collected taken along the north side of the excavation before groundwater was encountered. Sample SW-7-BS3 exceeded the RBALs, and the excavation was deepened in this area. A follow-up sample was collected near SW-7-BS3 on SWWS-1-6 to demonstrate that the soil at the bottom of the excavation was below the RBALs.

Soil from two additional, relatively small, areas was excavated and treated, based on odor detection. One of the areas is associated with SWMU 23 and the other is associated with the 18-inch culvert that was discovered in this area during the excavations associated with SWMU 23. Three upper 12-inch soil samples (MO-P-1W, MO-P-2C, MO-P-3E) did not show the soils in this area to exceed the RBALs, see Table 7. The area was excavated to slightly below the ground water table.

The sample locations and an outline of the excavated areas are presented on Figure 7. Results of the analytical data are summarized in Table 7. Laboratory data sheets are presented in Appendix E.

Approximately 2,820 cubic yards of soils were excavated from the area south of the water treatment area.

7.3 Central Area

During 1997 and 1998, soil between the North CAMU and the Central CAMU, and the North CAMU and the Hazardous Waste Management Area were excavated at various locations to remediate the SWMUs and AOCs identified in the Central Area. Bottom and perimeter samples, MO-CA-B01, MO-CA-B02, MO-CA-B03, MO-CA-D01, MO-CA-B04, BS1-51298-12, BS1-51298-6, BS251298-6, MO-CA-P1-S, MO-CA-P2-W, MO-CA-P3-W, MO-CABS-1, MO-CA4-B1, MO-CA4-B1, and MO-CA4-B2, were collected within the excavation. Analytical summaries of these samples are presented in Table 8. Appendix F contains the supporting laboratory data sheets. The locations of these samples are presented on Figure 7. Olfaction and laboratory analysis of these samples were used to determine the extent of the excavations as shown on Figure 7.

In 1998, CFI employed a contractor to grind the stockpile of woody debris material that had been generated while screening material from the areas excavated throughout the site. The materials consisted mainly of broken pieces of creosote treated piling, rail ties, and utility poles, but also included roots and other debris generated from the soil screening process. This material was pulverized by a mobile unit that delivered the processed material to a waiting dump truck. The dump truck delivered the material to the North CAMU for treatment.

Also in 1998, approximately 3,700 cubic yards of screened materials cleared from the area to the east and southeast of the Central CAMU were sent to the North CAMU for treatment. Approximately 6,040 cubic yards of soil from the Central Area were excavated and sent to the North CAMU for treatment.

During 1999, approximately 2,630 cubic yards were excavated and treated from the east side of the site between the main stormwater discharge ditch and the Central CAMU. During 2000 and 2001, soils and the work pad from the Central CAMU were excavated and treated.

Also in 1999, soils were excavated and treated from the east side of the site between the main stormwater discharge ditch and the Central CAMU. The extent to which these areas were excavated was determined by olfaction, groundwater levels and from sample analysis. Samples MO-CA6-BS1, MO-CA6-BS2, MO-CA6-BS3, CTDRS1-5, CTDBS-1, and CTDBS-2-4 were collected in the bottom of the excavations to verify that clean soil had been reached. The extent of these two excavations and sample locations are included on Figure 7. Analytical results are summarized in Table 8. Appendix F includes supporting laboratory data sheets.

During the excavation and treatment of soils in the Central Area, a number of near surface soil samples, collected from six to 12 inches below grade, were collected to determine whether the soils exceeded the RBALs. These samples include: MO-CA5B1-6, MO-CA5B2-6, MO-CA-5B3-6, MO-CA-5B4-6, MO-CA-DL-B1 and MO-PH-TS. Sample locations are presented in Figure 7. The analytical summary in Table 8 and the supporting laboratory data sheets in Appendix F indicate that contaminants in these areas did not exceed the RBALs. Consequently, excavation and treatment of soils in those areas was not necessary.

In total, approximately 23,770 cubic yards of soils were excavated and treated from the Central Area.

7.4 New Area Behind Tank Farm

EMS excavated soils in SWMU 27 (New Area Behind Tank Farm) in April 1998. This soil was transferred to the North CAMU following construction and used as part of the 18-inch soil base upon which windrows were constructed. The excavation was immediately filled with imported soil. No treatment of the soils was attempted in this area due the high groundwater table. Instead, four recovery wells, RW-29 through RW-32 as shown on Figure 7, were installed. Documentation of the installation of these wells was presented in Section 3.2 of EMS'

Corrective Action Plan Modification Report, Cavenham Forest Industries Inc., Mobile, Alabama Facility, dated February 6, 2003.

7.5 18-Inch Diameter Culvert

As further discussed in correspondence to ADEM dated November 1, 1999, CFI discovered a north/south trending 18-inch diameter culvert composed of concrete in some areas and metal in others south of the water treatment area. The area south of the water treatment plant was excavated as shown on Figure 7 to slightly below the water table and the soils treated in the CAMU. During December, 2002, CFI used a Geoprobe to investigate the subsurface soils on the north side of the water treatment area, completing borings SB-38 through SB-43 (Figure 7). Soils samples were collected from each boring and submitted to CFI's contract laboratory and analyzed for the RBAL constituents. As indicated in the analytical summary, Table 9, RBAL constituents were not detected in any of these samples. The laboratory analytical report for these samples is provided in Appendix G.

8.0 CLOSURE OF CAMUs

When bioremediation was completed, the CAMUs were closed as required by 40 CFR §264.552(e)(4) and ADEM ACR 335-14-5.19(1)(e)(4). The CAMUs were clean closed in accordance with Section 9.0 of the *Soil Corrective Action Work Plan* of April 1995.

8.1 Closure of Central CAMU

The Central Area CAMU was closed by removing the initial test windrow and all of the soil stockpiles and treating this material in the North CAMU. The soil screening unit and conveyor unit were decontaminated and moved to an off-site location. Woody debris removed from the screening process was pulverized into small particles and treated within the North CAMU. Stone and concrete debris were decontaminated, as warranted, and used as general fill at on-site locations. Liquids were transferred to the stormwater collection tanks and ultimately routed to the on-site groundwater recovery treatment system which has a permitted NPDES discharge. The Central Area was backfilled following excavation of contaminated soils to a positive slope that will promote non-erosive runoff. Following grading, the area was seeded with suitable annual and perennial grasses and mulched.

Prior to final grading of the soil, samples were collected throughout the Central CAMU. These samples, MO-CC-B1-6', MO-CCBS-2, MO-CCP-2, MO-CCBS-2, MO-CCP-2, MO-CC BS3, MO-CC BS-4, MO-CC P3, MO-CC TP-1, MO-CC TP-2, and MO-CC TP-3, were collected to a depth of six to 12 inches. The sample locations are shown on Figure 7. The analytical summary is presented in Table 10 and the individual laboratory data sheets are presented in Appendix H. The results presented in Table 10 show that the analyzed constituents were below the RBALs prior to grading the area with treated soil.

8.2 Closure of North CAMU

The North CAMU was closed by treating all soil windrows and the soil work pad contained within the CAMU, decontaminating, removing and disposal of the geomembrane, and then confirmatory sampling of the underlying soil.

8.2.1 Decontamination and Removal

After completing treatment of the last windrow, the working pad and protective sand were formed into windrows on the southern end of the CAMU. This material was biologically treated and sampled in the same manner as previously conducted for contaminated soils. When treatment of these materials was complete, the sand and work pad were excavated, loaded, and spread on-site.

Equipment, vehicles, and project materials were decontaminated after all treated materials had been spread. The CAMU HDPE geomembrane liner and decontamination facility were decontaminated by using high-pressure water, steam, and/or detergents. The HDPE geomembrane liner was rolled out and sprayed with a high pressure washer to remove significant solids. The HDPE liner was then wipe-tested and found to have some Table 2 constituents. The HDPE liner was then cut into pieces, which were repeatedly immersed in a tank filled with water

and detergent. While suspended above the tank, the HDPE was again pressure washed. After subsequent wipe tests indicated that the HDPE liner had been successfully decontaminated, it was disposed as construction debris in a solid waste disposal facility. Results of the wipe tests are presented in Table 11. Analytical data sheets are presented in Appendix I along with copies of manifest and ADEM correspondence regarding the HDPE liner disposal. Wash water from this process was routed to the on-site recovered groundwater treatment system.

The decontamination equipment, piping, drains, pumps, and collection sump were dismantled, decontaminated, and stored for future use.

Sediments collected in the stormwater storage tanks were analyzed for the soil treatment RBAL parameters. As indicated by the data presented in Table 12 and the analytical data sheets in Appendix J, the sediments were not contaminated above the RBALs. Following analyses, the collected material was used as general on-site fill material. Water remaining in the stormwater storage tanks were treated in the recovered groundwater treatment system and discharged in accordance with CFI's NPDES permit.

8.2.2 Verification of Subgrade

After the liner was removed, the underlying soil was tested to determine if any contaminants were released from the North CAMU. The top six inches of soil was sampled and analyzed for the RBAL constituents listed in Table 2. Sampling was performed on the same 100-foot grid utilized for sampling prior to construction. Samples were collected from the 0-6 inch interval within six inches of the marked location. Results of the sampling program are presented in Table 4 and the actual laboratory data sheets are presented in Appendix B. As indicated by the data in Table 4, constituent levels in these confirmation samples did not exceed the action levels presented in Table 2. The sample locations for the baseline and the verification samples are shown on Figure 5.

8.2.3 Grading and Revegetation

Following verification testing, the soil berms were pushed in to the low areas of the unit and the disturbed area was graded, seeded with a suitable annual and perennial grass seed mixture, and mulched.

9.0 CERTIFICATION

EMS was retained by Cavenham Forest Industries, Inc., to ensure that the Soil Corrective Action Plan for the Mobile Alabama facility would be followed. EMS provided oversight of the excavation of the targeted soil and operations of the CAMUs. These services included overseeing the construction of the CAMU, sampling and testing of the soils in the AOCs, excavating and treating soils and materials that did not meet the RBALs, monitoring the bioremediation treatment on the CAMU, sampling and testing the bioremediation windrows, backfilling the excavations with treated soils, closing the CAMUs, documenting activities and certifying the facility has met the requirements of the *Soil Corrective Action Work Plan.*

Based on the observations, laboratory and field testing results, and the data presented herein, EMS certifies the facility has met the requirements as outlined in *Soil Corrective Action Work Plan* of April 1995.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel, properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Kirk Lowery
Alabama Registration No. 20537
April 29, 2004

TABLES

Soil Treatment Areas and SWMU Designation

SOIL TREATMENT AREAS	SWMU NUMBER AND NAME	
Central Area (Cylinder Area)	5	Cylinder Door Sumps
	6	Cylinder Sumps
	7	Process Area (Cylinder Drip Tanks)
	11	Barometric Condenser
	24C	Spot Deposit
	AOC A	Treated Wood Storage Area (partial)
	AOC F	Working Tank No. 2
	AOC G	East Area Drainage Ditch (partial)
North Area	22	North Tar Deposit
	AOC A	Treated Wood Storage Area (partial)
South Area	23	Creek Tar Deposit
	AOC A	Treated Wood Storage Area (partial)
	Unnamed	18" Culvert
New Area Behind Tank Farm	27	New Area Behind Tank Farm

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 2
Cavenham Forest Industries
CAMU Closure

Risk Based Action Levels (RBALs)

Noncarcinogenic PAHs	RBAL	Carcinogenic PAHs	RBAL
Naphthalene	250 mg/kg	Benzo(a)pyrene	25 mg/kg
Pyrene		Dibenzo(a,h)anthracene	
2-Methylnaphthalene		Benzo(a)anthracene	
Fluoranthene		Benzo(b)fluoranthene	
Fluorene		Indeno(1,2,3-cd)pyrene	
Phenanthrene		Benzo(k)fluoranthene	
Acenaphthene		Chrysene	
Anthracene			

Other Creosote/PCP Residues	RBAL
Pentachlorophenol	15 mg/kg
2,4,6-Trichlorophenol	65,000 mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Area 1 Excavation Analytical Summary
Dec-96

Noncarcinogenic PAHs	MO-A1-B01	MO-A1-B02	MO-A1-B03	MO-A1-P01	MO-A1-P02	MO-A1-P03	MO-A1-P04	MO-A1-D01
Naphthalene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
Pyrene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	5.62	<0.27
2-Methylnaphthalene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
Fluoranthene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	6.19	<0.27
Fluorene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	1.6	<0.27
Phenanthrene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	3.39	<0.27
Acenaphthene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	1.91	<0.27
Anthracene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	2.25	<0.27
p-chloro-m-cresol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
2,4-Dinitrophenol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
Tetrachlorophenol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
Acenaphthylene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
Phenol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
2-Chlorophenol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
2,4-Dimethylphenol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
Total	0	0	0	0	0	0	20.96	0
Carcinogenic PAHs								
Benzo(a)pyrene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	2.25	<0.27
Dibenzo(a,h)anthracene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27
Benzo(a)anthracene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	1.73	<0.27
Benzo(b)fluoranthene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	4.66	<0.27
Indeno(1,2,3-cd)pyrene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	1.68	<0.27
Benzo(k)fluoranthene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	2.27	<0.27
Chrysene	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	2.97	<0.27
Total	0	0	0	0	0	0	15.56	0
Other Creosote/PCP Residues								
Pentachlorophenol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	2.38	<0.27
2,4,6-Trichlorophenol	<0.28	<0.32	<0.32	<0.3	<0.3	<0.24	<1.29	<0.27

* MO-A1-D01 is a duplicate of MO-A1-B01

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Area 2 Excavation Analytical Summary
Dec-96

Noncarcinogenic PAHs	MO-A2-P01	MO-A2-P02	MO-A2-P03	MO-A2-P04	MO-A2-B01	MO-A2-B02	MO-A2-B03
Naphthalene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Pyrene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
2-Methylnaphthalene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Fluoranthene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Fluorene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Phenanthrene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Acenaphthene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Anthracene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
p-chloro-m-cresol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
2,4-Dinitrophenol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Tetrachlorophenol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Acenapthylene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Phenol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
2-Chlorophenol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
2,4-Dimethylphenol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Total	0	0	0	0	0	0	0
Carcinogenic PAHs							
Benzo(a)pyrene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Dibenzo(a,h)anthracene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Benzo(a)anthracene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Benzo(b)fluoranthene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Indeno(1,2,3-cd)pyrene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Benzo(k)fluoranthene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Chrysene	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
Total	0	0	0	0	0	0	0
Other Creosote/PCP Residues							
Pentachlorophenol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3
2,4,6-Trichlorophenol	<0.3	<0.32	<0.29	<0.27	<0.28	<0.26	<0.3

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Area 3 Excavation Analytical Summary
Dec-96

Noncarcinogenic PAHs	MO-A3-B01	MO-A3-B02	MO-A3-B03	MO-A3-D01	MO-A3-P01	MO-A3-P02	MO-A3-P03	MO-A3-P04
Naphthalene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Pyrene	<0.27	<0.31	<0.28	0.85	<0.22	<0.33	<0.27	0.94
2-Methylnaphthalene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Fluoranthene	<0.27	<0.31	<0.28	0.97	<0.22	<0.33	<0.27	1.34
Fluorene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Phenanthrene	<0.27	<0.31	<0.28	0.61	<0.22	<0.33	<0.27	0.49
Acenaphthene	<0.27	<0.31	<0.28	0.37	<0.22	<0.33	<0.27	<0.29
Anthracene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	0.32
p-chloro-m-cresol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
2,4-Dinitrophenol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Tetrachlorophenol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Acenaphthylene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Phenol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
2-Chlorophenol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
2,4-Dimethylphenol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Total	0	0	0	2.8	0	0	0	3.09
Carcinogenic PAHs								
Benzo(a)pyrene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	0.33
Dibenzo(a,h)anthracene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Benzo(a)anthracene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	0.32
Benzo(b)fluoranthene	<0.27	<0.31	<0.28	0.41	<0.22	<0.33	<0.27	0.48
Indeno(1,2,3-cd)pyrene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
Benzo(k)fluoranthene	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	0.61
Chrysene	<0.27	<0.31	<0.28	0.64	<0.22	<0.33	<0.27	0.54
Total	0	0	0	1.05	0	0	0	2.28
Other Creosote/PCP Residues								
Pentachlorophenol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29
2,4,6-Trichlorophenol	<0.27	<0.31	<0.28	<0.3	<0.22	<0.33	<0.27	<0.29

* MO-A3-D01 is a duplicate of MO-A3-P04

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Area 4 Excavation Analytical Summary
Jan-97

Noncarcinogenic PAHs	MO-A4-B01	MO-A4-D01	MO-A4-P01	MO-A4-P02	MO-A4-P03	MO-A4-P04	MO-A4-P05
Naphthalene	<0.3	<0.26	<0.33	<0.28	<0.33	<0.3	<0.31
Pyrene	<0.3	4.54	<0.33	<0.28	3.28	<0.3	<0.31
2-Methylnaphthalene	<0.3	<0.26	<0.33	<0.28	<0.33	<0.3	<0.31
Fluoranthene	<0.3	3.27	<0.33	<0.28	3.33	<0.3	<0.31
Fluorene	<0.3	0.33	<0.33	<0.28	0.42	<0.3	<0.31
Phenanthrene	<0.3	1	<0.33	<0.28	1.41	<0.3	<0.31
Acenaphthene	<0.3	0.42	<0.33	<0.28	0.53	<0.3	<0.31
Anthracene	<0.3	1.67	<0.33	<0.28	0.95	<0.3	<0.31
p-chloro-m-cresol	<0.3	<0.3	<0.33	<0.28	<0.33	<0.3	<0.31
2,4-Dinitrophenol	<0.3	<0.3	<0.33	<0.28	<0.33	<0.3	<0.31
Tetrachlorophenol	<0.3	<0.3	<0.33	<0.28	<0.33	<0.3	<0.31
Acenaphthylene	<0.3	0.77	<0.33	<0.28	0.37	<0.3	<0.31
Phenol	<0.3	<0.3	<0.33	<0.28	<0.33	<0.3	<0.31
2-Chlorophenol	<0.3	<0.3	<0.33	<0.28	<0.33	<0.3	<0.31
2,4-Dimethylphenol	<0.3	<0.3	<0.33	<0.28	<0.33	<0.3	<0.31
Total	0	12	0	0	10.29	0	0
Carcinogenic PAHs							
Benzo(a)pyrene	<0.3	4.95	<0.33	<0.28	2.61	<0.3	<0.31
Dibenzo(a,h)anthracene	<0.3	<0.26	<0.33	<0.28	<0.33	<0.3	<0.31
Benzo(a)anthracene	<0.3	3.94	<0.33	<0.28	2.3	<0.3	<0.31
Benzo(b)fluoranthene	<0.3	9.02	<0.33	<0.28	5.07	<0.3	<0.31
Indeno(1,2,3-cd)pyrene	<0.3	2.67	<0.33	<0.28	1.28	<0.3	<0.31
Benzo(k)fluoranthene	<0.3	2.82	<0.33	<0.28	1.17	<0.3	<0.31
Chrysene	<0.3	4.2	<0.33	<0.28	2.46	<0.3	<0.31
Total	0	27.6	0	0	14.89	0	0
Other Creosote/PCP Residues							
Pentachlorophenol	<0.3	1.68	<0.33	<0.28	0.68	<0.3	<0.31
2,4,6-Trichlorophenol	<0.3	<0.3	<0.33	<0.28	<0.33	<0.3	<0.31

* MO-A4-D01 is a duplicate of MO-A4-P03

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Area 5 Excavation Analytical Summary
Jan-97

Noncarcinogenic PAHs	MO-A5-B01	MO-A5-P01	MO-A5-P02
Naphthalene	<0.25	<0.27	<0.26
Pyrene	<0.25	<0.27	0.32
2-Methylnaphthalene	<0.25	<0.27	<0.26
Fluoranthene	<0.25	<0.27	0.41
Fluorene	<0.25	<0.27	<0.26
Phenanthrene	<0.25	<0.27	<0.26
Acenaphthene	<0.25	<0.27	<0.26
Anthracene	<0.25	<0.27	<0.26
p-chloro-m-cresol	<0.25	<0.27	<0.26
2,4-Dinitrophenol	<0.25	<0.27	<0.26
Tetrachlorophenol	<0.25	<0.27	<0.26
Acenaphthylene	<0.25	<0.27	<0.26
Phenol	<0.25	<0.27	<0.26
2-Chlorophenol	<0.25	<0.27	<0.26
2,4-Dimethylphenol	<0.25	<0.27	<0.26
Total	0	0	0.73
Carcinogenic PAHs			
Benzo(a)pyrene	<0.25	<0.27	<0.26
Dibenzo(a,h)anthracene	<0.25	<0.27	<0.26
Benzo(a)anthracene	<0.25	<0.27	<0.26
Benzo(b)fluoranthene	<0.25	<0.27	<0.26
Indeno(1,2,3-cd)pyrene	<0.25	<0.27	<0.26
Benzo(k)fluoranthene	<0.25	<0.27	<0.26
Chrysene	<0.25	<0.27	<0.26
Total	0	0	0
Other Creosote/PCP Residues			
Pentachlorophenol	<0.25	<0.27	<0.26
2,4,6-Trichlorophenol	<0.25	<0.27	<0.26

Area 7 Excavation Analytical Summary
Feb-97

MO-A7-B01	MO-A7-D01	MO-A7-P01	MO-A7-P02	MO-A7-P03
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	7.99	0.81	6.17	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	6.96	0.65	5.34	<0.32
<0.3	0.53	<0.3	0.78	<0.32
<0.3	2.47	<0.3	2.05	<0.32
<0.3	1.12	0.3	1.69	<0.32
<0.3	1.44	<0.3	1.45	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	0.57	<0.3	0.62	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
0	21.08	1.76	18.1	0
<0.3	2.84	0.39	2.86	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	4.55	0.43	2.5	<0.32
<0.3	1.9	0.4	6.77	<0.32
<0.3	1.26	<0.3	1.35	<0.32
<0.3	3.09	0.93	3.23	<0.32
<0.3	4.83	0.69	4.15	<0.32
0	18.47	2.84	20.86	0
<0.3	<0.3	<0.3	<0.29	<0.32
<0.3	<0.3	<0.3	<0.29	<0.32

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Area 6 Excavation Analytical Summary
Jan-97

Noncarcinogenic PAHs	MO-A6-B01	MO-A6-B02	MO-A6-B03	MO-A6-D01	MO-A6-P01	MO-A6-P02	MO-A6-P03
Naphthalene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Pyrene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
2-Methylnaphthalene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Fluoranthene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Fluorene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Phenanthrene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Acenaphthene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Anthracene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
p-chloro-m-cresol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
2,4-Dinitrophenol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Tetrachlorophenol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Acenaphthylene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Phenol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
2-Chlorophenol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
2,4-Dimethylphenol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Total	0	0	0	0	0	0	0
Carcinogenic PAHs							
Benzo(a)pyrene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Dibenzo(a,h)anthracene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Benzo(a)anthracene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Benzo(b)fluoranthene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Indeno(1,2,3-cd)pyrene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Benzo(k)fluoranthene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Chrysene	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
Total	0	0	0	0	0	0	0
Other Creosote/PCP Residues							
Pentachlorophenol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32
2,4,6-Trichlorophenol	<0.31	<0.32	<0.33	<0.29	<0.27	<0.33	<0.32

* MO-A6-D01 is a duplicate of MO-A6-P02

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Area 8 Excavation Analytical Summary
Mar-97

Noncarcinogenic PAHs	MO-A8-B01	MO-A8-B02	MO-A8-B03	MO-A8-D01
Naphthalene	<0.33	<0.33	<0.33	<0.33
Pyrene	<0.33	<0.33	<0.33	<0.33
2-Methylnaphthalene	<0.33	<0.33	<0.33	<0.33
Fluoranthene	<0.33	<0.33	<0.33	<0.33
Fluorene	<0.33	<0.33	<0.33	<0.33
Phenanthrene	<0.33	<0.33	<0.33	<0.33
Acenaphthene	<0.33	<0.33	<0.33	<0.33
Anthracene	<0.33	<0.33	<0.33	<0.33
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0
Carcinogenic PAHs				
Benzo(a)pyrene	<0.33	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	<0.33	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	<0.33	<0.33	<0.33	<0.33
Chrysene	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0
Other Creosote/PCP Residues				
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33

Berm Excavation Analytical Summary
Mar-97

MO-BM-01-A	MO-BM-02-A	MO-BM-03-A	MO-BF-01
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
0	0	0	0
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31
0	0	0	0
<0.33	<0.33	<0.33	<0.31
<0.33	<0.33	<0.33	<0.31

*MO-A8-D01 is a duplicate of MO-A8-B02

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Subgrade Excavation Analytical Summary
Dec-96

Noncarcinogenic PAHs	MO-SG-01	MO-SG-02	MO-SG-03	MO-SG-04	MO-SG-05	MO-SG-06	MO-SG-07	MO-SG-08	MO-SG-D08
Naphthalene	<0.33	1.62	0.54	<0.27	0.52	<0.6	<0.28	<0.29	<0.27
Pyrene	<0.33	<0.27	<0.54	3.66	1.53	7.34	2.39	3.32	1.64
2-Methylnaphthalene	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
Fluoranthene	0.59	0.73	4.63	<0.27	1.63	6.2	2.24	2.73	1.2
Fluorene	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	0.28	0.47	<0.27
Phenanthrene	<0.33	<0.27	1.14	0.54	1.19	0.94	0.94	1.62	0.43
Acenaphthene	<0.33	<0.27	1.35	<0.27	<0.3	<0.6	<0.28	0.46	<0.27
Anthracene	<0.33	<0.27	2.4	0.81	0.56	1.29	0.47	0.69	0.31
p-chloro-m-cresol	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
2,4-Dinitrophenol	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
Tetrachlorophenol	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
Acenaphthylene	<0.33	<0.27	1.35	0.43	<0.3	0.87	<0.28	<0.29	<0.27
Phenol	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
2-Chlorophenol	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
2,4-Dimethylphenol	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
Total	0.59	2.35	11.41	5.44	5.43	16.64	6.32	9.29	3.58
Carcinogenic PAHs									
Benzo(a)pyrene	0.51	0.59	7.19	1.99	0.78	3.95	0.49	1.11	0.63
Dibenzo(a,h)anthracene	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27
Benzo(a)anthracene	0.58	0.74	3.14	1.63	0.73	4.03	0.6	1.06	0.58
Benzo(b)fluoranthene	0.94	1.27	12.67	4.11	1.3	6.79	1.47	2.19	1.32
Indeno(1,2,3-cd)pyrene	0.44	0.56	4.55	1.38	0.58	2.3	<0.28	0.75	0.46
Benzo(k)fluoranthene	0.66	0.65	4.38	1.34	1.19	3.49	0.64	1.22	0.75
Chrysene	0.61	0.79	5.36	2.77	1.31	5.52	0.92	1.53	0.89
Total	3.74	4.6	37.29	13.22	5.89	26.08	4.12	7.86	4.63
Other Creosote/PCP Residues									
Pentachlorophenol	0.34	<0.27	1.46	0.74	<0.3	<0.6	<0.28	<0.29	<0.27
2,4,6-Trichlorophenol	<0.33	<0.27	<0.54	<0.27	<0.3	<0.6	<0.28	<0.29	<0.27

*MO-SG-D01 is a duplicate of MO-SG-08

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Wood Chip Area Excavation Analytical Summary
Feb-97

Noncarcinogenic PAHs	MO-WC-01	MO-WC-02	MO-WC-03	MO-WC-04	MO-WC-05	MO-WC-06	MO-WC-07
Naphthalene	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	0.61
Pyrene	2.51	5.22	3.29	<0.32	3.54	2.13	9.21
2-Methylnaphthalene	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
Fluoranthene	1.81	3.71	2.44	<0.32	3.61	2.2	6.25
Fluorene	<0.31	0.32	0.36	<0.32	<0.4	<0.24	0.77
Phenanthrene	0.81	0.89	0.55	<0.32	0.67	0.44	1.6
Acenaphthene	0.38	0.38	0.67	<0.32	<0.4	<0.24	1.1
Anthracene	0.74	2.45	0.5	<0.32	0.8	0.63	1.28
p-chloro-m-cresol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
2,4-Dinitrophenol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
Tetrachlorophenol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
Acenaphthylene	0.42	0.62	0.28	<0.32	<0.4	0.29	0.64
Phenol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
2-Chlorophenol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
2,4-Dimethylphenol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
Total	6.67	13.59	8.09	0	8.62	5.69	21.46
Carcinogenic PAHs							
Benzo(a)pyrene	0.96	2.19	0.93	<0.32	1.62	1.01	4.12
Dibenzo(a,h)anthracene	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
Benzo(a)anthracene	0.75	1.87	0.98	<0.32	1.54	0.88	3.23
Benzo(b)fluoranthene	2.08	4.12	1.5	<0.32	3.21	1.86	8.96
Indeno(1,2,3-cd)pyrene	0.61	1.18	0.42	<0.32	0.83	0.51	2.3
Benzo(k)fluoranthene	1.01	1.82	0.9	<0.32	1.18	0.93	5.31
Chrysene	1.38	3.04	1.66	<0.32	3.05	1.44	5.77
Total	6.79	14.22	6.39	0	11.43	6.63	29.69
Other Creosote/PCP Residues							
Pentachlorophenol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33
2,4,6-Trichlorophenol	<0.31	<0.3	<0.26	<0.32	<0.4	<0.24	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 3
Cavenham Forest Industries
CAMU Closure

Wood Chip Area Excavation Analytical Summary (cont'd)
Feb-97

Noncarcinogenic PAHs	MO-WC-08	MO-WC-09	MO-WC-10	MO-WC-11	MO-WC-12	M)-WC-13	MO-WC-D01
Naphthalene	<0.33	<0.32	<0.27	<0.31	0.34	0.3	<0.31
Pyrene	0.64	<0.32	1.24	5.35	3.97	3.27	<0.31
2-Methylnaphthalene	<0.33	<0.32	<0.27	<0.31	0.33	<0.3	<0.31
Fluoranthene	0.44	<0.32	0.91	2.72	4.37	3.02	<0.31
Fluorene	<0.33	<0.32	<0.27	<0.31	1.42	0.3	<0.31
Phenanthrene	<0.33	<0.32	<0.27	0.5	3.86	1.25	<0.31
Acenaphthene	<0.33	<0.32	<0.27	<0.31	1.46	0.35	<0.31
Anthracene	<0.33	<0.32	0.64	0.96	1.68	1.31	<0.31
p-chloro-m-cresol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
2,4-Dinitrophenol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
Tetrachlorophenol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
Acenaphthylene	<0.33	<0.32	<0.27	0.69	0.42	0.51	<0.31
Phenol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
2-Chlorophenol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
2,4-Dimethylphenol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
Total	1.08	0	2.79	10.22	17.85	10.31	0
Carcinogenic PAHs							
Benzo(a)pyrene	0.36	<0.32	0.82	2.01	1.29	1.47	<0.31
Dibenzo(a,h)anthracene	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
Benzo(a)anthracene	<0.33	<0.32	0.52	2.72	1.55	2.03	<0.31
Benzo(b)fluoranthene	0.44	<0.32	1.64	4.1	2.47	2.98	<0.31
Indeno(1,2,3-cd)pyrene	<0.33	<0.32	0.55	<0.31	<0.3	0.87	<0.31
Benzo(k)fluoranthene	0.59	<0.32	0.98	2.51	1.06	1.53	<0.31
Chrysene	0.34	<0.32	0.92	2.89	1.88	2.16	<0.31
Total	1.73	0	5.43	14.23	8.25	11.04	0
Other Creosote/PCP Residues							
Pentachlorophenol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31
2,4,6-Trichlorophenol	<0.33	<0.32	<0.27	<0.31	<0.3	<0.3	<0.31

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 4
Cavenham Forest Industries
CAMU Closure

Baseline Sample Analytical Summary
April, 1997

Noncarcinogenic PAHs	MO-BL-01	MO-BL-02	MO-BL-03	MO-BL-04	MO-BL-05	MO-BL-06	MO-BL-07	MO-BL-08	MO-BL-09	MO-BL-10	MO-BL-11	MO-BL-12
Naphthalene	0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Pyrene	0.43	4.58	0.47	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	3.83	<0.33	<0.33
2-Methylnaphthalene	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	0.33	3.47	0.6	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	2.68	<0.33	<0.33
Fluorene	<0.29	0.46	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenanthrene	<0.29	1.24	0.35	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	0.63	<0.33	<0.33
Acenaphthene	<0.29	0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Anthracene	<0.29	4.14	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	2.6	<0.33	<0.33
p-chloro-m-cresol	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.29	0.59	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	1.41	<0.33	<0.33
Phenol	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	1.05	14.81	1.42	0	0	0	0	0	0	11.15	0	0
Carcinogenic PAHs												
Benzo(a)pyrene	<0.29	2.7	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	3.74	<0.33	<0.33
Dibenzo(a,h)anthracene	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	0.67	<0.33	<0.33
Benzo(a)anthracene	<0.29	2.17	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	2.48	<0.33	<0.33
Benzo(b)fluoranthene	0.41	5.6	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	7.38	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	<0.29	1.3	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	2.45	<0.33	<0.33
Benzo(k)fluoranthene	0.38	1.55	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	2.1	<0.33	<0.33
Chrysene	0.38	3.71	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	2.69	<0.33	<0.33
Total	1.17	17.03	0	0	0	0	0	0	0	21.51	0	0
Other Creosote/PCP Residues												
Pentachlorophenol	<0.29	2.14	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	0.41	<0.33	<0.33
2,4,6-Trichlorophenol	<0.29	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 4
Cavenham Forest Industries
CAMU Closure

Confirmation to Baseline Sample Analytical Summary
February, 2002

Noncarcinogenic PAHs	MO-CBL-01	MO-CBL-02	MO-CBL-03	MO-CBL-04	MO-CBL-05	MO-CBL-06	MO-CBL-07	MO-CBL-08	MO-CBL-09	MO-CBL-10	MO-CBL-11	MO-CBL-12
Naphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.6	<0.33
Pyrene	<0.33	1.02	0.39	<0.33	0.49	2.15	0.81	<0.33	0.74	0.39	2.6	5.71
2-Methylnaphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.45
Fluoranthene	<0.33	0.98	0.4	<0.33	0.49	3.28	1.01	<0.33	0.75	0.42	2.72	8.29
Fluorene	<0.33	<0.33	<0.33	<0.33	<0.33	0.83	<0.33	<0.33	<0.33	<0.33	<0.33	5.38
Phenanthrene	<0.33	<0.33	<0.33	<0.33	0.41	2.97	0.41	<0.33	0.34	<0.33	1.27	8.44
Acenaphthene	<0.33	<0.33	<0.33	<0.33	<0.33	0.78	<0.33	<0.33	<0.33	<0.33	<0.33	2.61
Anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	1.08	<0.33	<0.33	0.56	<0.33	2.46	31.9
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.66	<0.66	<0.66	<0.33	<0.66	<0.66	<0.66	<0.33	<0.66	<0.66	<0.66	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.56	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0	2	0.79	0	1.39	11.09	2.23	0	2.39	0.81	10.21	62.78
Carcinogenic PAHs												
Benzo(a)pyrene	<0.33	0.82	<0.33	<0.33	0.4	0.75	0.64	<0.33	0.69	0.39	3.37	0.96
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	0.85	0.45
Benzo(a)anthracene	<0.33	0.59	<0.33	<0.33	<0.33	0.88	0.45	<0.33	0.42	<0.33	1.81	1.58
Benzo(b)fluoranthene	<0.33	1.29	0.51	<0.33	0.77	1.11	1.14	<0.33	0.99	0.64	4.59	1.65
Indeno(1,2,3-cd)pyrene	<0.33	0.52	<0.33	<0.33	<0.33	0.43	0.36	<0.33	0.47	<0.33	2.31	0.45
Benzo(k)fluoranthene	<0.33	0.75	<0.33	<0.33	0.36	0.45	0.46	<0.33	0.42	<0.33	2.23	0.9
Chrysene	<0.33	0.87	0.35	<0.33	0.37	1.02	0.64	<0.33	0.69	0.41	3.2	1.87
Total	0	4.84	0.86	0	1.9	4.64	3.69	0	3.68	1.44	18.36	7.86
Other Creosote/PCP Residues												
Pentachlorophenol	<0.33	0.82	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	MOWRA1	WRA2	WRA2	WRA2	WRA3	WRA3	WRA4	WRA4
Duplicate			DUP			DUP		
Date	11/10/1997	7/7/1998	7/7/1998	8/3/1998	11/18/1998	11/18/1998	1/6/1999	1/27/1999
Naphthalene	<0.31	10.80	23.50	4.56	<0.33	<0.33	0.39	<0.33
Pyrene	4.03	30.80	36.40	18.73	2.04	2.20	15.90	16.40
2-Methylnaphthalene	<0.31	8.20	18.70	3.33	<0.33	<0.33	0.49	<0.33
Fluoranthene	3.62	45.40	56.90	27.34	2.32	2.62	22.50	25.70
Fluorene	0.32	13.70	34.10	12.16	0.52	0.72	12.50	7.80
Phenanthrene	1.20	35.30	81.40	37.92	1.23	1.41	23.90	13.90
Acenaphthene	0.37	13.40	28.00	9.62	<0.33	<0.33	15.60	12.60
Anthracene	1.08	12.60	48.50	13.22	2.47	3.87	4.29	5.59
p-chloro-m-cresol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	10.62	170.20	327.50	126.88	8.58	10.82	95.57	81.99
Carcinogenic PAHs								
Benzo(a)pyrene	2.21	5.90	6.80	-3.33	1.11	1.08	1.67	-3.33
Dibenzo(a,h)anthracene	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	1.86	10.60	12.60	5.89	1.09	1.26	3.74	5.08
Benzo(b)fluoranthene	2.67	7.80	8.50	<0.33	1.47	1.52	2.31	3.56
Indeno(1,2,3-cd)pyrene	0.71	<0.33	<0.33	<0.33	0.69	0.64	0.55	<0.33
Benzo(k)fluoranthene	2.37	6.30	6.80	-3.33	1.17	1.09	2.08	<0.33
Chrysene	2.62	12.60	13.70	5.75	1.69	1.90	3.77	5.25
Total	12.44	43.20	48.40	4.98	7.22	7.49	14.12	10.56
Other Creosote/PCP Residues								
Pentachlorophenol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.31	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRA5	WRA5	WRA6	WRA6	WR-A7	WR-A8	WR-A8	WRA9	WRA9
Duplicate	DUP								
Date	3/22/1999	3/22/1999	5/4/1999	6/9/1999	4/19/2000	5/24/2000	6/20/2000	10/4/2000	11/17/2000
Naphthalene	0.39	0.39	0.86	<0.33	0.49	<0.66	<0.33	<3.33	<3.31
Pyrene	7.27	5.54	8.22	3.09	7.90	11.90	1.80	45.40	12.90
2-Methylnaphthalene	<0.33	<0.33	0.45	<0.33	<0.33	0.81	<0.33	<3.33	<3.31
Fluoranthene	9.26	8.86	11.20	3.63	13.40	15.30	2.12	43.40	15.70
Fluorene	1.28	0.76	1.87	0.66	1.15	4.81	0.56	13.90	5.06
Phenanthrene	3.94	2.84	6.33	2.14	5.18	9.98	1.20	44.70	11.30
Acenaphthene	1.17	1.03	0.80	<0.33	1.37	3.79	-0.33	14.90	<3.31
Anthracene	2.52	1.84	11.40	4.28	3.03	6.47	4.12	23.90	36.50
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31
Acenaphthylene	0.62	0.59	0.67	0.37	0.50	<0.66	<0.33	<3.33	<3.31
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31
Total	26.45	21.85	41.80	14.17	33.02	53.06	9.47	186.20	81.46
Carcinogenic PAHs									
Benzo(a)pyrene	2.86	2.46	3.90	1.61	1.95	4.83	1.16	8.24	4.85
Dibenzo(a,h)anthracene	0.36	<0.33	0.59	<0.33	<0.33	0.77	<0.33	<3.33	<3.31
Benzo(a)anthracene	2.97	2.40	4.75	1.70	2.79	8.78	0.98	17.70	6.88
Benzo(b)fluoranthene	5.64	4.31	6.85	2.49	3.52	7.35	1.47	14.10	6.94
Indeno(1,2,3-cd)pyrene	1.29	0.97	1.83	0.66	0.82	1.85	0.73	<3.33	<3.31
Benzo(k)fluoranthene	1.36	1.14	1.65	1.11	0.73	2.30	0.52	4.69	<3.31
Chrysene	3.85	2.96	5.84	2.45	2.97	6.12	1.60	16.80	5.32
Total	18.33	14.24	25.41	10.02	12.78	32.00	6.46	61.53	23.99
Other Creosote/PCP Residues									
Pentachlorophenol	0.74	0.83	0.55	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.66	<0.33	<3.33	<3.31

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRB1	WRB2	WRB3	WRB3	WRB4	WRB4	WR-B5
Date	12/22/1997	7/22/1998	1/6/1999	1/27/1999	3/22/1999	5/4/1999	11/12/1999
Naphthalene	<0.31	<3.15	<0.33	<0.33	2.40	0.40	<0.66
Pyrene	2.85	14.53	20.40	3.00	51.00	6.57	19.80
2-Methylnaphthalene	-0.31	-3.15	3.30	<0.33	2.74	<0.33	0.67
Fluoranthene	3.14	20.54	22.70	4.02	5.00	10.10	27.10
Fluorene	<0.31	7.95	13.30	-0.33	28.50	1.79	12.90
Phenanthrene	0.80	21.21	34.50	1.03	117.00	5.94	27.80
Acenaphthene	<0.31	6.26	16.10	-0.33	22.40	0.65	15.20
Anthracene	0.91	19.60	3.76	1.71	20.60	9.25	10.70
p-chloro-m-cresol	<0.31	<3.15	<0.33	<0.33	<0.33	<0.33	<0.66
2,4-Dinitrophenol	<0.31	<3.15	<0.33	<0.33	<0.33	<0.33	<0.66
Tetrachlorophenol	<0.31	<3.15	<0.33	<0.33	<0.33	<0.33	<0.66
Acenaphthylene	0.44	<3.15	0.47	<0.33	1.29	0.56	<0.66
Phenol	<0.31	<3.15	<0.33	<0.33	<0.33	<0.33	<0.66
2-Chlorophenol	<0.31	<3.15	<0.33	<0.33	<0.33	<0.33	<0.66
2,4-Dimethylphenol	<0.31	<3.15	<0.33	<0.33	<0.33	<0.33	<0.66
Total	7.83	86.94	114.53	9.10	250.93	35.26	114.17
Carcinogenic PAHs							
Benzo(a)pyrene	1.54	<3.15	2.16	2.21	10.40	2.96	3.64
Dibenzo(a,h)anthracene	<0.31	<3.15	<0.33	<0.33	1.19	0.44	1.49
Benzo(a)anthracene	1.28	5.37	4.21	1.43	20.00	3.41	7.50
Benzo(b)fluoranthene	2.43	<3.15	4.76	3.03	17.90	5.17	5.32
Indeno(1,2,3-cd)pyrene	<0.31	<3.15	0.96	0.65	3.17	1.38	1.51
Benzo(k)fluoranthene	1.44	<3.15	0.66	1.14	6.69	1.38	2.03
Chrysene	2.10	5.64	3.75	1.80	21.30	3.96	7.31
Total	8.79	11.01	16.50	10.26	80.65	18.70	28.80
Other Creosote/PCP Residues							
Pentachlorophenol	<0.31	<3.15	<0.33	<0.33	0.74	<0.33	2.13
2,4,6-Trichlorophenol	<0.31	<3.15	<0.33	<0.33	<0.33	<0.33	<0.66

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WR-B5	WR-B6	WR-B6	WRB7	WRB7	WRB7	WRB7
Duplicate							DUP
Date	1/25/2000	5/10/2000	6/20/2000	10/4/2000	11/17/2000	12/6/2000	12/6/2000
Naphthalene	<0.66	<3.30	1.47	<3.30	<1.66	<1.66	<1.65
Pyrene	6.33	30.60	8.65	38.00	7.76	4.29	2.64
2-Methylnaphthalene	<0.66	<3.30	1.32	<3.30	<1.66	<1.66	<1.65
Fluoranthene	6.34	44.70	12.70	56.20	9.12	4.83	2.87
Fluorene	0.94	12.40	4.08	6.97	<1.66	<1.66	<1.65
Phenanthrene	2.29	29.60	0.78	23.00	2.30	1.97	4.42
Acenaphthene	0.67	4.70	0.74	7.76	<1.66	<1.66	<1.65
Anthracene	5.81	48.90	16.60	13.30	2.96	4.38	1.84
p-chloro-m-cresol	<0.66	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
2,4-Dinitrophenol	<0.66	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
Tetrachlorophenol	<0.66	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
Acenaphthylene	1.62	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
Phenol	<0.66	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
2-Chlorophenol	<0.66	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
2,4-Dimethylphenol	<0.66	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
Total	24.00	170.90	46.34	145.23	22.14	15.47	11.77
Carcinogenic PAHs							
Benzo(a)pyrene	1.73	8.43	3.65	9.64	4.32	3.00	2.00
Dibenzo(a,h)anthracene	0.98	<3.30	0.89	<3.30	<1.66	<1.66	<1.65
Benzo(a)anthracene	3.50	15.30	4.13	14.80	4.38	2.03	<1.65
Benzo(b)fluoranthene	6.48	13.60	5.19	14.30	6.54	4.46	3.07
Indeno(1,2,3-cd)pyrene	3.41	<3.30	2.30	<3.30	2.19	1.98	<1.65
Benzo(k)fluoranthene	2.26	4.68	1.75	4.59	1.88	<1.66	<1.65
Chrysene	3.87	14.10	5.65	15.20	5.80	3.25	2.30
Total	22.23	56.11	23.56	58.53	25.11	14.72	7.37
Other Creosote/PCP Residues							
Pentachlorophenol	8.30	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65
2,4,6-Trichlorophenol	<0.66	<3.30	<0.66	<3.30	<1.66	<1.66	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRC1	WRC1	WRC1	WRC2	WRC2	WRC3	WRC3
Duplicate		DUP			DUP		
Date	4/14/98	4/14/98	5/22/98	7/28/98	7/28/98	12/18/98	1/6/99
Naphthalene	<3.30	<3.30	<0.33	<3.33	<3.33	<943	907.00
Pyrene	52.00	41.50	3.11	10.10	8.90	3993.00	1485.00
2-Methylnaphthalene	<3.30	<3.30	<0.33	<3.33	<3.33	1357.00	674.00
Fluoranthene	76.70	63.80	2.43	14.30	12.10	5197.00	2565.00
Fluorene	12.90	6.90	<0.33	4.70	<3.33	2699.00	1034.00
Phenanthrene	43.60	25.40	0.94	12.50	6.80	9381.00	3983.00
Acenaphthene	12.60	7.20	<0.33	3.80	3.80	2153.00	1337.00
Anthracene	29.30	20.80	1.08	8.90	3.40	2988.00	738.00
p-chloro-m-cresol	<3.30	<3.30	<0.33	<3.33	<3.33	<943	<9.08
2,4-Dinitrophenol	<3.30	<3.30	<0.33	<3.33	<3.33	<943	<9.08
Tetrachlorophenol	<3.30	<3.30	<0.33	<3.33	<3.33	<943	<9.08
Acenaphthylene	<3.30	<3.30	0.47	<3.33	<3.33	<943	90.00
Phenol	<3.30	<3.30	<0.33	<3.33	<3.33	<943	<9.08
2-Chlorophenol	<3.30	<3.30	<0.33	<3.33	<3.33	<943	<9.08
2,4-Dimethylphenol	<3.30	<3.30	<0.33	<3.33	<3.33	<943	<9.08
Total	227.10	165.60	8.03	54.30	35.00	27768.00	12813.00
Carcinogenic PAHs							
Benzo(a)pyrene	8.60	7.70	1.98	<3.33	<3.33	<943	169.00
Dibenzo(a,h)anthracene	<3.30	<3.30	0.41	<3.33	<3.33	<943	18.60
Benzo(a)anthracene	17.20	13.10	2.15	<3.33	<3.33	<943	474.00
Benzo(b)fluoranthene	10.60	9.90	3.09	<3.33	<3.33	<943	336.00
Indeno(1,2,3-cd)pyrene	3.80	<3.30	1.01	<3.33	<3.33	<943	81.70
Benzo(k)fluoranthene	9.30	8.50	1.07	<3.33	<3.33	<943	<90.7
Chrysene	18.70	14.20	2.37	<3.33	<3.33	<943	181.00
Total	68.20	53.40	12.08	0.00	0.00	0.00	1260.30
Other Creosote/PCP Residues							
Pentachlorophenol	5.20	5.10	<0.33	<3.33	<3.33	<943	<9.08
2,4,6-Trichlorophenol	<3.30	<3.30	<0.33	<3.33	<3.33	<943	<9.08

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRC3	WRC3	WRC3	WRC3	WRC4	WRC5	WRC5
Date	1/6/99	1/27/99	2/23/99	5/10/99	11/12/99	5/10/00	6/20/00
Naphthalene	349.00	<0.33	1.02	<1.32	<0.67	0.80	<0.33
Pyrene	1027.00	64.20	191.00	14.90	6.68	12.70	4.61
2-Methylnaphthalene	365.00	0.92	1.71	<1.32	<0.67	<0.66	<0.33
Fluoranthene	1274.00	1.38	249.00	17.60	6.71	17.50	4.59
Fluorene	668.00	10.60	15.70	<1.32	<0.67	3.32	<0.33
Phenanthrene	2044.00	106.00	67.90	4.47	2.04	8.48	0.86
Acenaphthene	726.00	12.60	18.50	1.40	<0.67	2.18	<0.33
Anthracene	411.00	12.60	43.40	4.60	1.89	7.57	1.06
p-chloro-m-cresol	<9.08	<0.33	<0.67	<1.32	<0.67	<0.66	<0.33
2,4-Dinitrophenol	<9.08	<0.33	<0.67	<1.32	<0.67	<0.66	<0.33
Tetrachlorophenol	<9.08	<0.33	1.97	<1.32	<0.67	<0.66	<0.33
Acenaphthylene	73.00	3.20	7.06	<1.32	<0.67	0.71	<0.33
Phenol	<9.08	<0.33	<0.67	<1.32	<0.67	<0.66	<0.33
2-Chlorophenol	<9.08	<0.33	<0.67	<1.32	<0.67	<0.66	<0.33
2,4-Dimethylphenol	<9.08	<0.33	<0.67	<1.32	<0.67	<0.66	<0.33
Total	6937.00	211.50	597.26	42.97	17.32	53.26	11.12
Carcinogenic PAHs							
Benzo(a)pyrene	125.00	43.60	47.00	17.90	2.96	8.49	1.94
Dibenzo(a,h)anthracene	<9.24	0.94	2.26	2.97	<0.67	1.12	0.43
Benzo(a)anthracene	256.00	80.10	25.70	8.72	3.06	6.84	1.97
Benzo(b)fluoranthene	264.00	49.40	80.70	73.90	4.16	10.30	2.74
Indeno(1,2,3-cd)pyrene	53.00	<0.33	12.30	9.87	1.67	3.22	1.06
Benzo(k)fluoranthene	<9.24	9.25	47.30	6.83	1.18	4.66	0.93
Chrysene	253.00	77.30	86.10	14.80	5.18	8.42	2.48
Total	951.00	260.59	301.36	134.99	18.21	43.05	11.55
Other Creosote/PCP Residues							
Pentachlorophenol	<9.08	0.71	25.60	<1.32	1.21	<0.66	<0.33
2,4,6-Trichlorophenol	<9.08	<0.33	<0.67	<1.32	<0.67	<0.66	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRC6	WRC7	WRC7	WRC7	WRC7	WRC8	WRC8
Date	7/27/00	8/16/00	10/4/00	10/13/00	11/7/00	2/2/01	3/6/01
Naphthalene	<0.65	1.69	<1.64	<6.60	<1.60	3.230	<1.65
Pyrene	7.78	30.80	10.50000	27.90000	7.37000	45.90000	7.64000
2-Methylnaphthalene	<0.65	<1.06	<1.64	<6.60	<1.60	3.2800	<1.65
Fluoranthene	7.73	42.00	14.00000	30.10000	9.35000	58.90000	9.68000
Fluorene	0.78	9.78	<1.64	<6.60	<1.60	17.0000	1.8300
Phenanthrene	3.09	27.60	3.1300	<6.60	4.2000	41.1000	5.4500
Acenaphthene	<0.65	11.70	<1.64	<6.60	<1.60	20.90000	<1.65
Anthracene	2.93	9.97	2.7200	<6.60	8.1500	43.8000	9.7900
p-chloro-m-cresol	<0.65	<1.06	<1.64	<6.60	<1.60	<1.65	<1.65
2,4-Dinitrophenol	<0.65	<1.06	<1.64	<6.60	<1.60	<1.65	<1.65
Tetrachlorophenol	<0.65	<1.06	<1.64	<6.60	<1.60	<1.65	<1.65
Acenaphthylene	<0.65	1.58	<1.64	<6.60	<1.60	<1.65	<1.65
Phenol	<0.65	<1.06	<1.64	<6.60	<1.60	<1.65	<1.65
2-Chlorophenol	<0.65	<1.06	<1.64	<6.60	<1.60	<1.65	<1.65
2,4-Dimethylphenol	<0.65	<1.06	<1.64	<6.60	<1.60	<1.65	<1.65
Total	22.31	135.12	30.35	58.00	29.07	234.11	34.39
Carcinogenic PAHs							
Benzo(a)pyrene	2.75	10.70	5.090	7.900	3.090	10.000	4.390
Dibenzo(a,h)anthracene	<0.65	2.20	<1.64	<6.60	<1.60	270.0000	<1.65
Benzo(a)anthracene	3.94	11.60	6.3500	10.1000	4.2000	20.3000	3.3600
Benzo(b)fluoranthene	4.36	9.57	8.080	12.700	4.750	16.200	7.030
Indeno(1,2,3-cd)pyrene	1.40	5.24	2.310	<6.60	1.880	4.370	2.370
Benzo(k)fluoranthene	1.73	5.46	2.6700	7.7000	1.6100	6.1700	2.0100
Chrysene	3.75	10.00	4.6600	11.7000	2.8200	81.4400	4.9400
Total	17.93	54.77	29.16	50.10	18.35	408.48	24.10
Other Creosote/PCP Residues							
Pentachlorophenol	<0.65	<1.06	<1.64	<6.60	<1.60	4.560	<1.65
2,4,6-Trichlorophenol	<0.65	<1.06	<1.64	<6.60	<1.60	<1.65	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRD1	WRD2	WRD3	WRD3	WRD3	WRD3	WRD3	WR-D3	WRD3A
Date	4/14/98	8/26/98	12/18/98	1/6/99	1/27/99	2/23/99	5/10/99	12/29/00	7/16/99
Naphthalene	<3.10	1.80	<364.00	510.00	<3.33	<0.67	<1.32	<1.66	<0.66
Pyrene	6.30	7.80	2379.00	1266.00	441.00	137.00	82.00	19.80	10.00
2-Methylnaphthalene	<3.10	1.90	1469.00	456.00	7.18	<0.67	<1.32	<1.66	<0.66
Fluoranthene	7.70	9.70	2815.00	1592.00	660.00	156.00	117.00	26.10	11.00
Fluorene	<3.10	8.70	1987.00	932.00	107.00	4.45	7.44	2.46	<0.66
Phenanthrene	<3.10	13.80	5110.00	2339.00	386.00	15.80	20.30	15.20	2.20
Acenaphthene	<3.10	3.20	2176.00	959.00	181.00	4.80	6.86	<1.66	<0.66
Anthracene	<3.10	25.60	1278.00	529.00	170.00	34.60	19.10	6.31	10.60
p-chloro-m-cresol	<3.10	<1.67	<364.00	<9.60	<3.33	<0.67	<1.32	<1.66	<0.66
2,4-Dinitrophenol	<3.10	<1.67	<364.00	<9.60	<3.33	<0.67	<1.32	<1.66	<0.66
Tetrachlorophenol	<3.10	<1.67	<364.00	<9.60	<3.33	<0.67	<1.32	<1.66	<0.66
Acenaphthylene	<3.10	<1.67	<364.00	40.00	8.99	6.54	6.41	<1.66	6.33
Phenol	<3.10	<1.67	<364.00	<9.60	<3.33	<0.67	<1.32	2.38	<0.66
2-Chlorophenol	<3.10	<1.67	<364.00	<9.60	<3.33	<0.67	<1.32	<1.66	<0.66
2,4-Dimethylphenol	<3.10	<1.67	<364.00	<9.60	<3.33	<0.67	<1.32	<1.66	<0.66
Total	14.00	72.50	17214.00	8623.00	1961.17	359.19	259.11	72.25	40.13
Carcinogenic PAHs									
Benzo(a)pyrene	<3.10	1.80	<364.00	161.00	58.40	39.50	38.10	4.67	15.50
Dibenzo(a,h)anthracene	<3.10	<1.67	<364.00	<9.60	<3.33	1.87	6.66	<1.66	3.60
Benzo(a)anthracene	<3.10	3.10	585.00	328.00	160.00	50.50	43.00	7.69	7.33
Benzo(b)fluoranthene	3.30	4.00	581.00	285.00	69.30	65.10	80.90	7.93	28.00
Indeno(1,2,3-cd)pyrene	<3.10	<1.67	<364.00	72.00	25.30	11.00	20.00	2.35	9.90
Benzo(k)fluoranthene	3.50	4.80	<364.00	51.00	25.80	34.10	15.40	2.39	6.70
Benzo(a)pyrene	<3.10	3.32	<364.00	113.01	39.13	35.18	30.45	3.98	11.40
Total	6.80	17.02	1166.00	1010.01	377.93	237.25	234.51	29.01	82.43
Other Creosote/PCP Residues									
Pentachlorophenol	<3.10	<1.67	<364.00	<9.60	37.40	1.45	<1.32	<1.66	<0.66
2,4,6-Trichlorophenol	<3.10	<1.67	<364.00	<9.60	<3.33	<0.67	<1.32	<1.66	<0.66

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRD3A	MO-RW-D3A	MO-WR-D3A	WRD3A	WRD3A	WRD3A	WRD3A	WR-D3A	WR-D3A
Date	7/28/99	9/24/99	4/11/00	8/16/00	10/4/00	11/7/00	1/11/01	6/20/00	3/6/01
Naphthalene	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
Pyrene	20.30	56.80	8.22	<4.67	4.77	4.79	7.82	8.17	2.67
2-Methylnaphthalene	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
Fluoranthene	24.40	59.30	7.76	<4.67	<4.00	3.25	9.03	6.19	2.47
Fluorene	1.63	13.30	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
Phenanthrene	11.90	37.60	4.24	6.13	<4.00	<1.60	2.69	11.40	<1.65
Acenaphthene	<1.33	16.60	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
Anthracene	14.60	24.70	<1.65	<4.67	14.40	5.21	3.00	4.49	2.18
p-chloro-m-cresol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
2,4-Dinitrophenol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
Tetrachlorophenol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
Acenaphthylene	9.03	12.60	4.47	<4.67	9.44	4.41	<1.65	8.76	<1.65
Phenol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
2-Chlorophenol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
2,4-Dimethylphenol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
Total	81.86	220.90	24.69	6.13	28.61	17.66	22.54	39.01	7.32
Carcinogenic PAHs									
Benzo(a)pyrene	16.80	52.40	13.90	13.40	21.10	12.40	6.11	11.60	5.06
Dibenzo(a,h)anthracene	3.99	13.40	4.26	7.04	8.41	6.28	2.68	8.92	2.36
Benzo(a)anthracene	18.30	32.80	5.26	<4.67	9.07	4.96	5.15	5.87	3.41
Benzo(b)fluoranthene	29.50	85.10	19.70	23.70	39.80	22.50	10.00	18.70	5.43
Indeno(1,2,3-cd)pyrene	15.00	47.00	12.50	16.30	19.50	13.90	5.96	11.80	5.55
Benzo(k)fluoranthene	12.70	23.80	6.47	5.57	10.20	5.59	3.19	9.58	2.53
Chrysene	18.42	44.10	10.55	11.92	7.19	3.34	3.21	14.10	<1.65
Total	114.71	298.60	72.64	77.93	115.27	68.97	36.30	80.57	24.34
Other Creosote/PCP Residues									
Pentachlorophenol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65
2,4,6-Trichlorophenol	<1.33	<6.67	<1.65	<4.67	<4.00	<1.60	<1.65	<1.33	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRE1	WRE2	WRE3	WRE3	WRE3	WRE3	WRE3	WRE4	WRE4
Duplicate				DUP				DUP	
Date	5/7/98	8/26/98	1/6/99	1/27/99	1/27/99	2/23/99	5/4/99	9/1/99	9/1/99
Naphthalene	<0.33	<0.33	59.50	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
Pyrene	8.75	6.82	102.00	83.40	97.90	42.10	0.74	42.20	33.50
2-Methylnaphthalene	<0.33	<0.33	128.00	17.10	18.40	<0.67	<0.33	<0.33	<0.33
Fluoranthene	9.77	7.08	217.00	69.30	79.60	53.20	1.07	44.90	38.20
Fluorene	1.07	2.93	123.00	82.40	89.60	3.45	<0.33	<0.33	25.80
Phenanthrene	4.18	5.65	425.00	83.50	91.90	5.14	0.49	18.50	40.00
Acenaphthene	1.00	1.54	149.00	101.00	110.00	11.30	<0.33	<0.33	<0.33
Anthracene	3.73	6.74	71.10	33.70	39.80	4.80	1.13	18.50	98.50
p-chloro-m-cresol	<0.33	<0.33	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
Tetrachlorophenol	0.34	<0.33	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<3.30	<1.50	<1.50	1.39	0.47	<0.33	<0.33
Phenol	<0.33	<0.33	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
Total	28.84	30.76	1274.60	470.40	527.20	121.38	3.90	124.10	236.00
Carcinogenic PAHs									
Benzo(a)pyrene	1.78	2.57	13.66	9.39	10.60	5.40	1.28	28.70	19.80
Dibenzo(a,h)anthracene	<0.33	0.37	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33
Benzo(a)anthracene	2.42	3.69	30.90	27.10	31.60	10.40	0.38	24.30	19.20
Benzo(b)fluoranthene	2.35	3.67	28.00	8.42	8.71	7.69	1.71	45.90	30.20
Indeno(1,2,3-cd)pyrene	0.78	0.80	4.43	<1.50	<1.50	1.64	0.74	19.08	14.10
Benzo(k)fluoranthene	1.20	2.92	3.87	16.20	18.20	5.62	<0.33	15.40	<0.33
Chrysene	3.21	4.80	26.00	24.60	28.60	9.58	0.45	37.90	31.50
Total	11.74	18.82	106.86	85.71	97.71	40.33	4.56	171.28	114.80
Other Creosote/PCP Residues									
Pentachlorophenol	3.83	<0.33	<3.30	<1.50	<1.50	1.22	<0.33	12.80	16.00
2,4,6-Trichlorophenol	<0.33	<0.33	<3.30	<1.50	<1.50	<0.67	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WR-E4	WRE5	WR-E5	WR-E5	WR-E5	WRE6	WRE6	WRE6
Date	11/12/99	9/1/00	4/19/00	6/20/00	7/27/00	10/4/00	10/18/00	11/7/00
Naphthalene	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
Pyrene	1.35	1.41	84.70	4.19	14.30	19.70	8.78	12.90
2-Methylnaphthalene	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
Fluoranthene	1.22	1.42	154.00	4.28	19.80	29.00	10.60	16.40
Fluorene	<0.67	<0.33	22.30	0.91	<1.66	4.53	3.33	<1.60
Phenanthrene	<0.67	0.45	75.10	2.11	5.54	15.90	6.83	11.10
Acenaphthene	<0.67	<0.33	17.70	<0.66	<1.66	3.71	<1.65	<1.60
Anthracene	1.36	0.67	76.70	5.70	9.87	9.64	21.00	9.07
p-chloro-m-cresol	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
2,4-Dinitrophenol	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
Tetrachlorophenol	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
Acenaphthylene	<0.67	<0.33	<6.60	1.06	<1.66	1.64	<1.65	<1.60
Phenol	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
2-Chlorophenol	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
2,4-Dimethylphenol	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60
Total	3.93	3.95	430.50	18.25	49.51	84.12	50.54	49.47
Carcinogenic PAHs								
Benzo(a)pyrene	1.50	1.26	13.50	4.57	4.63	8.25	5.32	4.58
Dibenzo(a,h)anthracene	<0.67	0.37	<6.60	1.34	<1.66	<1.32	<1.65	<1.60
Benzo(a)anthracene	0.88	0.90	29.30	2.78	6.72	12.10	3.96	5.40
Benzo(b)fluoranthene	2.15	2.03	22.60	6.25	7.22	13.90	7.88	6.98
Indeno(1,2,3-cd)pyrene	1.13	0.91	<6.60	3.45	2.90	3.02	3.01	2.57
Benzo(k)fluoranthene	<0.67	0.55	<6.60	1.99	2.12	4.24	2.68	2.16
Chrysene	1.59	1.37	29.80	4.65	6.83	7.99	5.36	5.48
Total	7.25	7.39	95.20	25.03	30.42	49.50	28.21	27.17
Other Creosote/PCP Residues								
Pentachlorophenol	0.93	0.59	<6.60	1.22	<1.66	<1.32	<1.65	<1.60
2,4,6-Trichlorophenol	<0.67	<0.33	<6.60	<0.66	<1.66	<1.32	<1.65	<1.60

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRE6	WR-E7	WR-E7	WR-E8	WR-E8	WR-E8	WR-E8	WR-E8
Duplicate				DUP				
Date	12/6/00	2/2/01	3/6/01	4/23/01	4/23/01	5/23/01	6/15/01	7/13/01
Naphthalene	<1.65	2.25	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
Pyrene	4.73	45.40	6.80	17.50	21.60	5.88	4.83	3.54
2-Methylnaphthalene	<1.65	2.11	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
Fluoranthene	5.01	62.60	8.78	16.60	19.60	6.98	4.49	3.80
Fluorene	<1.65	16.10	<1.65	3.80	2.46	1.21	<0.66	<1.66
Phenanthrene	<1.65	48.50	4.27	9.03	10.10	3.52	2.11	3.41
Acenaphthene	<1.65	20.20	<1.65	2.20	<1.65	0.89	<0.66	<1.66
Anthracene	<1.65	17.70	3.33	14.20	8.72	6.72	1.19	14.55
p-chloro-m-cresol	<1.65	<1.65	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
2,4-Dinitrophenol	<1.65	<1.65	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
Tetrachlorophenol	<1.65	<1.65	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
Acenaphthylene	<1.65	<1.65	<1.65	<1.65	<1.65	1.58	<0.66	<1.66
Phenol	<1.65	<1.65	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
2-Chlorophenol	<1.65	<1.65	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
2,4-Dimethylphenol	<1.65	<1.65	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66
Total	9.74	214.86	23.18	63.33	62.48	26.78	12.62	25.30
Carcinogenic PAHs								
Benzo(a)pyrene	2.48	8.56	4.26	6.55	8.00	6.01	5.44	3.47
Dibenzo(a,h)anthracene	<1.65	<1.65	<1.65	<1.65	<1.65	2.13	1.49	<1.66
Benzo(a)anthracene	1.95	19.10	4.13	8.50	11.20	5.38	3.69	1.74
Benzo(b)fluoranthene	4.07	14.00	6.73	4.00	12.20	9.05	6.21	5.33
Indeno(1,2,3-cd)pyrene	1.68	3.94	2.48	2.92	3.70	5.09	3.49	2.40
Benzo(k)fluoranthene	<1.65	5.17	2.24	4.33	4.83	3.99	3.22	<1.66
Chrysene	2.68	12.10	3.62	8.42	12.90	5.63	5.12	1.90
Total	12.86	62.87	23.46	34.72	52.83	37.28	28.66	14.84
Other Creosote/PCP Residues								
Pentachlorophenol	<1.65	3.75	<1.65	2.31	2.22	3.47	1.22	<1.66
2,4,6-Trichlorophenol	<1.65	<1.65	<1.65	<1.65	<1.65	<0.66	<0.66	<1.66

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRF1	WRF2	WRF2	WRF3	WRF3	WRF4	WR-F5
Duplicate					DUP		
Date	5/15/98	1/6/99	1/27/99	4/21/99	4/21/99	6/9/99	11/12/99
Naphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
Pyrene	7.73	18.80	5.67	2.17	3.33	5.92	15.90
2-Methylnaphthalene	<0.33	3.30	<0.33	<0.33	<0.33	<0.33	<0.67
Fluoranthene	7.78	25.90	20.60	2.74	3.90	6.54	20.60
Fluorene	1.11	14.20	2.88	<0.33	0.86	<0.33	7.15
Phenanthrene	4.31	42.00	3.97	1.38	3.04	1.07	16.80
Acenaphthene	0.85	18.70	2.20	<0.33	0.63	<0.33	9.63
Anthracene	3.72	7.30	19.80	0.77	1.12	1.84	5.11
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
Acenaphthylene	0.83	0.54	0.34	<0.33	<0.33	0.34	1.19
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
Total	26.33	130.74	55.46	7.06	12.88	15.71	76.38
Carcinogenic PAHs							
Benzo(a)pyrene	3.29	2.07	1.48	0.99	1.46	1.95	3.55
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67
Benzo(a)anthracene	3.31	4.84	2.37	1.01	1.47	2.68	5.23
Benzo(b)fluoranthene	5.05	4.32	2.17	2.12	2.41	3.12	6.47
Indeno(1,2,3-cd)pyrene	1.69	0.60	<0.33	0.67	0.93	0.72	2.27
Benzo(k)fluoranthene	10.40	0.63	1.14	-0.33	0.86	0.96	1.70
Chrysene	3.64	4.05	2.16	1.21	1.86	3.13	5.84
Total	27.38	16.51	9.32	5.67	8.99	12.56	25.06
Other Creosote/PCP Residues							
Pentachlorophenol	3.40	<0.33	<0.33	<0.33	<0.33	<0.33	4.50
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.67

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WR-F-5	WRF6	WR-F6	WR-F6	WR-F6	WRF7	WRF7
Date	1/25/00	9/1/00	5/10/00	6/20/00	7/27/00	10/4/00	11/17/00
Naphthalene	<0.66	0.99	<3.30	1.59	21.00	2.50	<3.29
Pyrene	7.66	2.27	35.80	8.36	48.20	45.40	31.00
2-Methylnaphthalene	<0.66	<0.33	<3.30	0.82	8.11	1.77	<3.29
Fluoranthene	7.45	2.63	50.40	10.50	71.60	73.10	35.90
Fluorene	0.78	0.43	10.70	2.25	16.30	19.70	<3.29
Phenanthrene	2.06	1.04	30.80	5.09	57.50	59.50	8.51
Acenaphthene	<0.66	<0.33	11.10	1.12	15.00	17.00	<3.29
Anthracene	3.40	2.94	12.10	6.45	14.80	19.90	35.90
p-chloro-m-cresol	<0.66	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29
2,4-Dinitrophenol	<0.66	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29
Tetrachlorophenol	<0.66	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29
Acenaphthylene	0.92	0.44	<3.30	0.89	<1.62	1.72	<3.29
Phenol	<0.66	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29
2-Chlorophenol	<0.66	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29
2,4-Dimethylphenol	<0.66	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29
Total	22.27	10.74	150.90	37.07	252.51	240.59	111.31
Carcinogenic PAHs							
Benzo(a)pyrene	1.16	1.52	8.62	4.55	8.20	11.10	6.97
Dibenzo(a,h)anthracene	0.73	0.55	<3.30	1.17	1.87	<1.66	<3.29
Benzo(a)anthracene	3.95	1.09	16.80	5.09	17.20	21.70	12.30
Benzo(b)fluoranthene	5.70	2.28	12.70	6.84	13.40	20.20	11.10
Indeno(1,2,3-cd)pyrene	2.42	1.51	<3.30	3.09	4.74	3.74	3.34
Benzo(k)fluoranthene	1.71	0.57	4.46	1.82	5.12	5.22	4.14
Chrysene	4.02	1.62	11.40	6.03	17.00	15.80	10.80
Total	19.69	9.14	53.98	28.59	67.53	77.76	48.65
Other Creosote/PCP Residues							
Pentachlorophenol	2.96	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29
2,4,6-Trichlorophenol	<0.66	<0.33	<3.30	<0.66	<1.62	<1.66	<3.29

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRF7	WR-F7	WR-F7	WR-F7	WR-F8	WR-F9
Date	1/11/01	12/29/00	2/2/01	3/6/01	4/23/01	10/1/01
Naphthalene	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Pyrene	11.00	24.90	11.60	2.45	9.26	3.57
2-Methylnaphthalene	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Fluoranthene	12.40	31.70	14.50	2.64	9.43	4.01
Fluorene	<1.65	<1.66	3.93	<1.65	1.81	<1.58
Phenanthrene	2.46	7.74	10.20	2.77	4.95	2.26
Acenaphthene	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Anthracene	3.95	4.41	19.70	2.82	8.80	8.63
p-chloro-m-cresol	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
2,4-Dinitrophenol	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Tetrachlorophenol	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Acenaphthylene	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Phenol	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
2-Chlorophenol	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
2,4-Dimethylphenol	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Total	29.81	68.75	59.93	10.68	34.25	18.47
Carcinogenic PAHs						
Benzo(a)pyrene	3.69	6.52	5.38	3.59	3.96	1.87
Dibenzo(a,h)anthracene	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58
Benzo(a)anthracene	5.98	10.30	5.16	2.80	3.90	<1.58
Benzo(b)fluoranthene	6.55	11.30	8.27	5.47	6.07	3.41
Indeno(1,2,3-cd)pyrene	1.94	3.64	3.14	2.33	1.85	<1.58
Benzo(k)fluoranthene	2.44	4.19	2.90	<1.65	2.19	<1.58
Chrysene	6.23	11.10	7.57	3.64	3.99	2.04
Total	26.83	47.05	32.42	17.83	21.96	7.32
Other Creosote/PCP Residues						
Pentachlorophenol	<1.65	<1.66	<1.65	<1.65	<1.65	1.68
2,4,6-Trichlorophenol	<1.65	<1.66	<1.65	<1.65	<1.65	<1.58

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRG1	WRG1	WRG1	WRG1	WRG1	WR-G10	WRG2	WRG3	WR-G4
Duplicate				DUP					DUP
Date	06/09/98	06/18/98	07/14/98	08/03/98	08/03/98	10/01/01	01/06/99	05/10/99	11/18/99
Naphthalene	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	44.40
Pyrene	21.40	14.50	11.60	1.37	1.03	20.50	1.85	4.28	26.50
2-Methylnaphthalene	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	3.30	<0.33	24.60
Fluoranthene	25.50	21.02	11.10	1.46	1.12	27.70	2.56	5.34	38.30
Fluorene	6.81	4.73	15.20	<0.33	<0.33	10.30	0.44	0.90	29.60
Phenanthrene	22.60	10.04	24.80	0.55	<0.33	20.70	1.01	2.79	50.50
Acenaphthene	8.52	<1.67	<3.33	<0.33	<0.33	15.50	0.61	<0.33	31.10
Anthracene	6.82	45.24	118.80	1.45	0.54	7.36	0.48	4.99	13.80
p-chloro-m-cresol	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67
2,4-Dinitrophenol	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67
Tetrachlorophenol	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67
Acenaphthylene	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	0.42	0.78
Phenol	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67
2-Chlorophenol	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67
2,4-Dimethylphenol	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67
Total	91.65	95.53	181.50	4.83	2.69	102.06	10.25	18.72	259.58
Carcinogenic PAHs									
Benzo(a)pyrene	4.14	4.54	8.20	0.94	0.82	3.79	0.68	2.04	2.26
Dibenzo(a,h)anthracene	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67
Benzo(a)anthracene	5.80	5.91	4.50	0.63	0.49	7.17	0.86	2.15	6.38
Benzo(b)fluoranthene	5.92	6.25	<3.33	1.13	0.93	6.67	0.95	3.74	4.08
Indeno(1,2,3-cd)pyrene	<3.33	<1.67	13.30	1.09	1.28	<3.30	0.33	1.11	1.21
Benzo(k)fluoranthene	4.99	4.70	<3.33	0.45	0.44	<3.30	1.02	1.20	1.20
Chrysene	7.76	7.64	8.60	0.94	0.77	5.06	1.07	2.86	5.49
Total	28.61	29.04	34.60	5.18	4.73	22.69	4.91	13.10	20.62
Other Creosote/PCP Residues									
Pentachlorophenol	<3.33	2.21	<3.33	0.90	0.86	<3.30	<0.33	<0.33	2.00
2,4,6-Trichlorophenol	<3.33	<1.67	<3.33	<0.33	<0.33	<3.30	<0.33	<0.33	<0.67

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WR-G4	WR-G5	WR-G5	WR-G5	WRG6	WRG6	WRG6	WRG7	WRG7
Date	11/18/99	05/10/00	06/20/00	07/27/00	08/16/00	10/04/00	10/13/00	10/04/00	11/17/00
Naphthalene	54.10	<0.66	<0.33	1.42	<1.40	<1.66	<1.67	3.44	<3.30
Pyrene	21.20	10.80	1.11	5.70	35.70	12.00	10.00	48.70	18.00
2-Methylnaphthalene	20.10	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	2.56	<3.30
Fluoranthene	30.80	15.20	1.32	6.98	46.20	16.50	9.70	75.80	17.40
Fluorene	22.80	6.03	<0.33	0.82	7.71	<1.66	<1.67	16.20	<3.30
Phenanthrene	39.80	12.90	0.60	2.36	20.20	4.32	5.25	46.70	4.95
Acenaphthene	24.40	3.96	<0.33	<0.66	7.39	<1.66	<1.67	18.40	<3.30
Anthracene	10.80	6.97	0.61	2.83	12.60	11.20	3.79	23.40	8.04
p-chloro-m-cresol	<0.67	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30
2,4-Dinitrophenol	<0.67	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30
Tetrachlorophenol	<0.67	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30
Acenaphthylene	0.68	<0.66	<0.33	<0.66	1.49	<1.66	<1.67	<1.67	<3.30
Phenol	<0.67	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30
2-Chlorophenol	<0.67	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30
2,4-Dimethylphenol	<0.67	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30
Total	224.68	55.86	3.64	20.11	131.29	44.02	28.74	235.20	48.39
Carcinogenic PAHs									
Benzo(a)pyrene	1.75	5.55	0.85	3.56	13.00	5.49	4.29	10.90	6.94
Dibenzo(a,h)anthracene	<0.67	0.86	<0.33	1.06	2.45	<1.66	<1.67	<1.67	<3.30
Benzo(a)anthracene	5.07	8.34	9.14	3.32	12.50	5.77	2.49	19.60	7.15
Benzo(b)fluoranthene	3.10	8.35	1.08	4.56	11.50	9.23	5.92	20.10	10.80
Indeno(1,2,3-cd)pyrene	0.97	2.02	0.60	3.01	5.83	2.41	2.74	3.39	3.43
Benzo(k)fluoranthene	1.11	2.63	<0.33	1.39	6.00	2.24	2.18	5.46	3.95
Chrysene	4.63	5.73	16.40	6.46	15.70	7.51	4.58	20.00	13.50
Total	16.63	33.48	28.07	23.36	66.98	32.65	22.20	79.45	45.77
Other Creosote/PCP Residues									
Pentachlorophenol	1.86	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30
2,4,6-Trichlorophenol	<0.67	<0.66	<0.33	<0.66	<1.40	<1.66	<1.67	<1.67	<3.30

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRG7	WR-G7	WR-G7	WR-G7	WR-G8	WR-G8	WR-G9	WR-G9	WR-G9
Duplicate									DUP
Date	01/11/01	12/29/00	02/02/01	03/06/01	04/23/01	06/15/01	07/13/01	08/28/01	08/28/01
Naphthalene	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
Pyrene	10.40	3.67	9.90	6.78	14.10	5.98	12.50	7.42	6.86
2-Methylnaphthalene	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
Fluoranthene	13.00	4.39	12.20	8.69	13.80	6.88	14.50	9.78	8.47
Fluorene	<1.64	<1.65	2.53	<1.65	1.72	0.72	3.99	<1.65	<1.65
Phenanthrene	5.75	<1.65	7.41	4.15	5.91	2.36	8.17	4.81	3.13
Acenaphthene	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	2.31	1.84
Anthracene	3.81	2.42	12.00	4.60	6.06	3.94	28.10	5.99	-1.65
p-chloro-m-cresol	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
2,4-Dinitrophenol	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
Tetrachlorophenol	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
Acenaphthylene	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
Phenol	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
2-Chlorophenol	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
2,4-Dimethylphenol	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65
Total	32.96	10.48	44.04	24.22	41.59	19.88	67.26	30.31	18.65
Carcinogenic PAHs									
Benzo(a)pyrene	3.91	2.08	6.33	3.93	5.27	4.02	5.62	3.31	2.90
Dibenzo(a,h)anthracene	<1.64	<1.65	<1.64	<1.65	<1.65	1.59	<1.64	<1.65	<1.65
Benzo(a)anthracene	6.77	1.79	4.69	3.06	5.85	3.87	4.45	3.04	2.36
Benzo(b)fluoranthene	6.39	3.49	9.81	6.03	9.32	6.08	9.54	3.42	2.96
Indeno(1,2,3-cd)pyrene	1.98	<1.65	3.79	2.31	2.60	2.86	2.91	1.90	<1.65
Benzo(k)fluoranthene	1.93	<1.65	2.79	<1.65	2.34	1.66	2.72	<1.65	<1.65
Chrysene	4.42	2.08	7.52	4.76	5.76	4.62	5.37	2.95	2.45
Total	25.40	9.44	34.93	20.09	31.14	24.70	30.61	14.62	10.67
Other Creosote/PCP Residues									
Pentachlorophenol	<1.64	<1.65	<1.64	<1.65	2.40	0.97	<1.64	2.24	1.96
2,4,6-Trichlorophenol	<1.64	<1.65	<1.64	<1.65	<1.65	<0.66	<1.64	<1.65	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRH1	WRH1	WRH1	WRH1	WRH2	WR-H4	WR-H4
Duplicate			DUP				
Date	6/18/98	7/14/98	7/14/98	8/3/98	1/6/99	2/2/01	3/6/01
Naphthalene	33.40	<6.67	<6.67	0.48	<0.33	2.49	<1.65
Pyrene	97.40	36.90	25.80	6.60	0.69	42.90	8.18
2-Methylnaphthalene	45.60	<6.67	<6.67	0.45	<0.33	2.62	<1.65
Fluoranthene	159.60	44.00	30.90	2.73	1.19	60.30	11.50
Fluorene	96.50	8.21	8.78	2.08	<0.33	12.70	<1.65
Phenanthrene	234.30	24.40	17.80	6.90	<0.33	33.20	4.84
Acenaphthene	95.20	9.82	<6.67	1.93	<0.33	15.40	<1.65
Anthracene	68.90	23.80	43.30	6.28	<0.33	40.90	3.81
p-chloro-m-cresol	<33.30	<6.67	<6.67	<0.33	<0.33	<1.66	<1.65
2,4-Dinitrophenol	<33.30	<6.67	<6.67	<0.33	<0.33	<1.66	<1.65
Tetrachlorophenol	<33.30	<6.67	<6.67	<0.33	<0.33	<1.66	<1.65
Acenaphthylene	<33.30	<6.67	<6.67	0.37	<0.33	<1.66	<1.65
Phenol	<33.30	<6.67	<6.67	<0.33	<0.33	<1.66	<1.65
2-Chlorophenol	<33.30	<6.67	<6.67	<0.33	<0.33	<1.66	<1.65
2,4-Dimethylphenol	<33.30	<6.67	<6.67	<0.33	<0.33	<1.66	<1.65
Total	830.90	147.13	126.58	27.82	1.88	210.51	28.33
Carcinogenic PAHs							
Benzo(a)pyrene	7.81	7.85	7.08	1.72	<0.33	9.41	4.26
Dibenzo(a,h)anthracene	<33.30	<6.67	<6.67	<0.33	<0.33	1.73	<1.65
Benzo(a)anthracene	<33.30	12.40	9.53	2.60	<0.33	21.00	4.00
Benzo(b)fluoranthene	<33.30	<6.67	<6.67	2.23	<0.33	15.90	6.96
Indeno(1,2,3-cd)pyrene	<33.30	<6.67	<6.67	1.31	<0.33	4.11	2.07
Benzo(k)fluoranthene	<33.30	<6.67	<6.67	0.86	<0.33	5.38	2.07
Chrysene	<33.30	15.10	12.90	2.57	<0.33	12.40	3.74
Total	7.81	35.35	29.51	11.29	0.00	69.93	23.10
Other Creosote/PCP Residues							
Pentachlorophenol	<33.30	<6.67	<6.67	1.39	<0.33	3.80	<1.65
2,4,6-Trichlorophenol	<33.30	<6.67	<6.67	<0.33	<0.33	<1.66	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WR-H5	WR-H5	WR-H5	WR-H6	WR-H6	WR-H7
Date	4/23/01	5/23/01	6/15/01	7/13/01	8/28/01	10/1/01
Naphthalene	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
Pyrene	14.40	5.70	1.36	13.60	1.85	11.40
2-Methylnaphthalene	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
Fluoranthene	14.80	6.97	1.52	15.50	2.02	12.50
Fluorene	3.16	1.65	0.73	<1.65	<1.65	<3.30
Phenanthrene	8.83	4.13	1.83	4.15	<1.65	3.29
Acenaphthene	2.70	0.97	<0.33	<1.65	<1.65	<3.30
Anthracene	9.55	6.17	5.59	5.45	<1.65	3.23
p-chloro-m-cresol	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
2,4-Dinitrophenol	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
Tetrachlorophenol	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
Acenaphthylene	<1.65	1.28	<0.33	<1.65	<1.65	<3.30
Phenol	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
2-Chlorophenol	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
2,4-Dimethylphenol	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30
Total	53.44	26.87	11.03	38.70	3.87	30.42
Carcinogenic PAHs						
Benzo(a)pyrene	8.36	7.72	1.35	4.98	<1.65	4.91
Dibenzo(a,h)anthracene	<1.65	1.84	0.41	<1.65	<1.65	<3.30
Benzo(a)anthracene	7.95	5.54	1.05	4.90	<1.65	<3.30
Benzo(b)fluoranthene	13.80	8.27	2.18	8.36	<1.65	8.98
Indeno(1,2,3-cd)pyrene	3.61	4.39	0.92	2.90	<1.65	<3.30
Benzo(k)fluoranthene	4.49	2.99	0.68	2.26	<1.65	<3.30
Chrysene	7.44	5.54	1.44	5.60	<1.65	4.87
Total	45.65	36.29	8.03	29.00	0.00	18.76
Other Creosote/PCP Residues						
Pentachlorophenol	<1.65	2.78	0.34	<1.65	<1.65	<3.30
2,4,6-Trichlorophenol	<1.65	<0.66	<0.33	<1.65	<1.65	<3.30

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WRI1	WRI1	WRI2	WRI2	WRI2	WRI2
Duplicate		DUP				
Date	6/24/98	6/24/98	10/6/00	10/18/00	11/7/00	12/6/00
Naphthalene	8.49	4.68	<3.27	<1.65	<1.60	<1.65
Pyrene	11.80	9.00	28.40	9.28	11.10	7.45
2-Methylnaphthalene	7.23	4.54	<3.27	<1.65	<1.60	<1.65
Fluoranthene	18.93	13.34	32.00	11.90	14.10	8.91
Fluorene	12.15	8.34	6.48	<1.65	<1.60	<1.65
Phenanthrene	27.15	19.04	24.20	4.13	5.60	<1.65
Acenaphthene	11.89	8.65	3.60	<1.65	<1.60	<1.65
Anthracene	10.03	9.00	17.40	5.21	3.79	1.84
p-chloro-m-cresol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
2,4-Dinitrophenol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
Tetrachlorophenol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
Acenaphthylene	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
Phenol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
2-Chlorophenol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
2,4-Dimethylphenol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
Total	107.67	76.59	112.08	30.52	34.59	18.20
Carcinogenic PAHs						
Benzo(a)pyrene	1.63	1.39	7.27	5.80	5.12	2.88
Dibenzo(a,h)anthracene	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
Benzo(a)anthracene	4.12	3.14	12.10	4.47	5.35	3.15
Benzo(b)fluoranthene	2.10	1.64	6.30	8.98	8.26	4.60
Indeno(1,2,3-cd)pyrene	<6.67	<6.67	3.57	2.80	2.71	1.86
Benzo(k)fluoranthene	1.42	1.38	<3.27	2.80	2.26	<1.65
Chrysene	3.98	3.22	10.60	6.43	6.35	3.60
Total	13.25	10.77	39.84	31.28	30.05	16.09
Other Creosote/PCP Residues						
Pentachlorophenol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65
2,4,6-Trichlorophenol	<6.67	<6.67	<3.27	<1.65	<1.60	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 5
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF WINDROW OPERATIONS

Noncarcinogenic PAHs	WR-I3	WR-I3	WR-I3	WR-I4	WR-I4	WR-I5
Date	4/23/01	5/23/01	6/15/01	7/13/01	8/28/01	10/1/01
Naphthalene	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
Pyrene	16.80	9.68	4.23	20.46	7.99	14.90
2-Methylnaphthalene	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
Fluoranthene	16.80	12.40	3.91	17.80	9.46	18.30
Fluorene	4.60	1.92	0.71	<1.64	<1.65	3.08
Phenanthrene	13.50	5.67	2.10	4.39	3.01	7.93
Acenaphthene	3.15	1.21	<0.33	<1.64	<1.65	5.82
Anthracene	8.14	7.97	3.34	3.59	2.94	3.93
p-chloro-m-cresol	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
2,4-Dinitrophenol	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
Tetrachlorophenol	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
Acenaphthylene	<1.65	1.32	<0.33	<1.64	<1.65	<1.65
Phenol	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
2-Chlorophenol	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
2,4-Dimethylphenol	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65
Total	62.99	40.17	14.29	46.24	23.40	53.96
Carcinogenic PAHs						
Benzo(a)pyrene	7.01	6.19	2.72	9.28	<1.65	4.00
Dibenzo(a,h)anthracene	<1.65	2.06	0.81	2.07	<1.65	<1.65
Benzo(a)anthracene	9.44	7.84	3.18	6.73	2.97	5.07
Benzo(b)fluoranthene	11.30	9.71	4.46	15.40	3.35	5.65
Indeno(1,2,3-cd)pyrene	2.48	4.87	1.81	4.64	<1.65	1.90
Benzo(k)fluoranthene	3.21	4.28	1.08	4.23	<1.65	2.12
Chrysene	8.50	4.96	3.48	7.07	3.76	5.07
Total	41.94	39.91	17.54	49.42	10.08	23.81
Other Creosote/PCP Residues						
Pentachlorophenol	<1.65	3.44	0.47	<1.64	1.73	<1.65
2,4,6-Trichlorophenol	<1.65	<0.66	<0.33	<1.64	<1.65	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 6
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY NORTH TAR DEPOSIT AREA

Noncarcinogenic PAHs	MO-NA-B01-NE	MO-NA-PO1-NE	MO-NA-PO2-NE	MO-NTBS1	MO-NTBS1
Duplicate					DUP
Date	8/19/1997	8/19/1997	8/19/1997	12/14/1998	12/14/1998
Naphthalene	10.94	<0.67	<1.67	<6.67	<6.67
Pyrene	19.58	9.86	<1.67	38.50	34.10
2-Methylnaphthalene	15.08	<0.67	<1.67	7.62	<6.67
Fluoranthene	24.86	9.51	<1.67	54.20	48.60
Fluorene	15.45	<0.67	<1.67	33.90	27.50
Phenanthrene	38.00	2.75	<1.67	67.90	56.60
Acenaphthene	18.08	0.67	<1.67	36.70	31.40
Anthracene	7.10	11.10	3.61	11.90	10.20
p-chloro-m-cresol	<1.67	<0.67	<1.67	<6.67	<6.67
2,4-Dinitrophenol	<1.67	<0.67	<1.67	<6.67	<6.67
Tetrachlorophenol	<1.67	<0.67	<1.67	<6.67	<6.67
Acenaphthylene	<1.67	1.61	<1.67	<6.67	<6.67
Phenol	<1.67	<0.67	<1.67	<6.67	<6.67
2-Chlorophenol	<1.67	<0.67	<1.67	<6.67	<6.67
2,4-Dimethylphenol	<1.67	<0.67	<1.67	<6.67	<6.67
Total	149.09	35.50	3.61	250.72	208.40
Carcinogenic PAHs					
Benzo(a)pyrene	2.11	6.82	1.99	<6.67	<6.67
Dibenzo(a,h)anthracene	<1.67	<0.67	<1.67	<6.67	<6.67
Benzo(a)anthracene	4.45	4.66	<1.67	9.40	8.70
Benzo(b)fluoranthene	2.73	12.03	2.48	9.40	8.40
Indeno(1,2,3-cd)pyrene	<1.67	2.12	<1.67	<6.67	<6.67
Benzo(k)fluoranthene	3.15	4.80	2.41	<6.67	<6.67
Chrysene	5.10	7.53	2.29	9.80	7.90
Total	12.44	30.43	6.88	18.80	17.10
Other Creosote/PCP Residues					
Pentachlorophenol	<1.67	4.37	<1.67	<6.67	<6.67
2,4,6-Trichlorophenol	<1.67	<0.67	<1.67	<6.67	<6.67

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 7
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY SOUTH AREA

Noncarcinogenic PAHs	MO-SWTP-01	MO-SWTP-02	MO-SWTP-03	MO-SWTP-04	MO-SWTP-05	MO-SWTP-06	MO-SWTP-07	MO-SWTP-08
Duplicate								
Date	4/15/1999	4/15/1999	4/15/1999	4/15/1999	4/15/1999	4/15/1999	4/15/1999	4/15/1999
Naphthalene	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
Pyrene	10.60	2.01	3.24	7.80	11.50	1.10	1.81	<0.33
2-Methylnaphthalene	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
Fluoranthene	14.40	2.46	3.18	5.26	15.40	0.90	0.98	<0.33
Fluorene	5.47	<0.33	<1.66	0.56	16.30	<0.33	<0.33	<0.33
Phenanthrene	19.80	<0.33	<1.66	1.39	21.40	0.43	<0.33	<0.33
Acenaphthene	3.95	<0.33	<1.66	0.69	17.40	<0.33	<0.33	<0.33
Anthracene	3.45	0.68	<1.66	2.82	9.60	1.65	2.29	0.41
p-chloro-m-cresol	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
Acenaphthylene	0.72	<0.33	<1.66	<0.33	1.09	0.34	<0.33	<0.33
Phenol	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
2-Chlorophenol	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33
Total	58.39	5.15	6.42	18.52	92.69	4.42	5.08	0.41
Carcinogenic PAHs								
Benzo(a)pyrene	2.37	0.64	2.44	3.32	1.88	0.62	0.42	<0.33
Dibenzo(a,h)anthracene	<0.66	<0.33	<1.66	0.61	<0.66	<0.33	<0.33	<0.33
Benzo(a)anthracene	2.73	0.74	<1.66	2.59	3.57	0.47	0.55	<0.33
Benzo(b)fluoranthene	6.26	1.36	4.77	6.40	3.32	1.28	1.12	0.41
Indeno(1,2,3-cd)pyrene	2.65	0.72	<1.66	2.61	2.20	0.92	<0.33	<0.33
Benzo(k)fluoranthene	1.82	0.42	<1.66	1.73	1.21	0.45	<0.33	<0.33
Chrysene	5.26	1.09	2.40	3.25	3.47	0.73	0.65	<0.33
Total	15.83	3.88	7.21	17.26	12.18	3.74	2.09	0.41
Other Creosote/PCP Residues								
Pentachlorophenol	<0.66	<0.33	<1.66	0.68	2.34	0.55	1.08	<0.33
2,4,6-Trichlorophenol	<0.66	<0.33	<1.66	<0.33	<0.66	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 7
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY SOUTH AREA

Noncarcinogenic PAHs	MO-SWTP-09	MO-SWTP-10	MO-SWTP-11	MO-SWTP-12	MO-SWTP-13	MO-SWTP-14	MO-SWTP-15
Duplicate							
Date	4/15/1999	4/15/1999	4/15/1999	4/15/1999	4/15/1999	4/15/1999	4/15/1999
Naphthalene	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
Pyrene	9.28	1.47	20.10	2.05	<0.33	<0.33	2.07
2-Methylnaphthalene	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
Fluoranthene	3.78	1.49	23.70	1.10	<0.33	<0.33	1.78
Fluorene	0.77	<0.33	2.85	<0.33	<0.33	<0.33	0.35
Phenanthrene	2.11	0.54	7.63	<0.33	<0.33	<0.33	0.89
Acenaphthene	1.32	<0.33	3.64	<0.33	<0.33	<0.33	0.45
Anthracene	16.60	2.89	4.98	2.45	0.51	<0.33	0.80
p-chloro-m-cresol	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	2.40	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	3.22	0.42	1.26	0.40	<0.33	<0.33	<0.33
Phenol	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
Total	39.48	6.81	64.16	6.00	0.51	0.00	6.34
Carcinogenic PAHs							
Benzo(a)pyrene	4.74	0.63	5.38	0.83	<0.33	<0.33	0.68
Dibenzo(a,h)anthracene	0.83	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	4.01	0.78	5.18	0.66	<0.33	<0.33	0.65
Benzo(b)fluoranthene	13.60	2.00	10.80	2.40	<0.33	<0.33	1.43
Indeno(1,2,3-cd)pyrene	2.71	0.58	2.15	0.43	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	3.02	0.36	2.86	0.61	<0.33	<0.33	0.57
Chrysene	4.33	0.77	5.64	0.77	<0.33	<0.33	0.90
Total	28.91	4.35	26.37	4.93	0.00	0.00	3.33
Other Creosote/PCP Residues							
Pentachlorophenol	8.87	<0.33	1.65	1.17	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.63	<0.33	<0.66	<0.33	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 7
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY SOUTH AREA

Noncarcinogenic PAHs	MO-SWTP-16	MO-SWTP-17	SW-7-BS1	SW-7-BS2	SW-7-BS3	SW-7-BS4	SW-7-BS5
Duplicate							
Date	4/15/1999	4/15/1999	5/12/1999	5/12/1999	5/13/1999	5/13/1999	5/13/1999
Naphthalene	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
Pyrene	12.30	<0.33	<0.33	0.39	21.40	0.62	0.64
2-Methylnaphthalene	<0.33	<0.33	0.89	<0.33	<3.34	2.71	<0.33
Fluoranthene	11.80	<0.33	<0.33	0.57	9.46	0.52	0.59
Fluorene	<0.33	<0.33	0.30	<0.33	3.92	1.25	<0.33
Phenanthrene	<0.33	<0.33	<0.33	0.37	8.08	0.49	<0.33
Acenaphthene	<0.33	<0.33	0.96	<0.33	4.71	2.86	0.34
Anthracene	1.23	<0.33	<0.33	<0.33	27.20	<0.33	1.19
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
Acenaphthylene	0.39	<0.33	<0.33	<0.33	<3.34	0.78	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
Total	25.72	0.00	2.15	1.33	74.77	9.23	2.76
Carcinogenic PAHs							
Benzo(a)pyrene	3.18	0.77	<0.33	<0.33	7.15	<0.33	0.40
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33
Benzo(a)anthracene	3.75	<0.33	<0.33	<0.33	15.20	<0.33	0.45
Benzo(b)fluoranthene	6.81	<0.33	<0.33	<0.33	19.80	<0.33	0.81
Indeno(1,2,3-cd)pyrene	0.90	<0.33	<0.33	<0.33	4.21	<0.33	0.34
Benzo(k)fluoranthene	2.38	<0.33	<0.33	<0.33	9.26	<0.33	0.51
Chrysene	5.98	<0.33	<0.33	0.39	20.60	<0.33	0.62
Total	17.02	0.77	0.00	0.00	55.62	0.00	2.51
Other Creosote/PCP Residues							
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	3.71	<0.33	0.81
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<3.34	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 7
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY SOUTH AREA

Noncarcinogenic PAHs	SW-7-BS6	SW-7-BS6	SWWS-1-6	MO-P-1W	MO-P-1W	MO-P-2C	MO-P-3E
Duplicate		DUP			DUP		
Date	5/14/1999	5/14/1999	10/29/1999	9/28/2001	9/28/2001	9/28/2001	9/28/2001
Naphthalene	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
Pyrene	0.34	0.43	2.04	13.80	8.28	11.00	3.71
2-Methylnaphthalene	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
Fluoranthene	0.64	0.82	1.72	14.50	9.26	11.40	4.30
Fluorene	0.94	0.91	<0.66	<1.98	<1.67	<3.30	<1.65
Phenanthrene	2.27	2.46	1.01	2.05	2.16	<3.30	<1.65
Acenaphthene	0.71	0.70	0.77	<1.98	<1.67	<3.30	<1.65
Anthracene	<0.33	<0.33	0.73	3.83	14.70	<3.30	<1.65
p-chloro-m-cresol	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
2,4-Dinitrophenol	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
Tetrachlorophenol	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
Acenaphthylene	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
Phenol	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
2-Chlorophenol	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
2,4-Dimethylphenol	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
Total	4.90	5.32	6.27	34.18	34.40	22.40	8.01
Carcinogenic PAHs							
Benzo(a)pyrene	<0.33	<0.33	1.23	4.31	2.57	5.13	2.38
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65
Benzo(a)anthracene	<0.33	<0.33	0.92	5.34	3.23	4.09	1.73
Benzo(b)fluoranthene	<0.33	<0.33	2.38	7.86	5.15	9.59	4.32
Indeno(1,2,3-cd)pyrene	<0.33	<0.33	1.00	2.61	<1.67	<3.30	<1.65
Benzo(k)fluoranthene	<0.33	<0.33	0.84	2.56	2.02	3.30	<1.65
Chrysene	<0.33	<0.33	1.49	6.08	3.85	5.80	2.44
Total	0.00	0.00	6.37	22.68	12.97	22.11	8.43
Other Creosote/PCP Residues							
Pentachlorophenol	<0.33	<0.33	<0.66	3.01	<1.67	<3.30	<1.65
2,4,6-Trichlorophenol	<0.33	<0.33	<0.66	<1.98	<1.67	<3.30	<1.65

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 8
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY CENTRAL AREA

Noncarcinogenic PAHs	MO-CA-B01	MO-CA-B02	MO-CA-B03	MO-CA-D01	MO-CA-B04	BS1-51298-12	BS1-51298-6	BS2-51298-6
Duplicate								
Date	8/29/1997	8/29/1997	8/29/1997	8/29/1997	9/3/1997	5/12/1998	5/12/1998	5/12/1998
Naphthalene	<0.32	0.76	<0.33	<0.30	<0.33	2.64	1.66	<0.31
Pyrene	<0.32	1.01	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
2-Methylnaphthalene	<0.32	0.55	<0.33	<0.30	<0.33	0.49	0.42	<0.31
Fluoranthene	<0.32	1.10	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Fluorene	<0.32	0.83	<0.33	<0.30	<0.33	0.55	0.68	<0.31
Phenanthrene	<0.32	2.04	<0.33	<0.30	<0.33	1.18	1.16	<0.31
Acenaphthene	<0.32	0.91	<0.33	<0.30	<0.33	0.50	0.53	<0.31
Anthracene	<0.32	0.43	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
p-chloro-m-cresol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
2,4-Dinitrophenol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Tetrachlorophenol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Acenaphthylene	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Phenol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
2-Chlorophenol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
2,4-Dimethylphenol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Total	0.00	7.63	0.00	0.00	0.00	5.36	4.45	0.00
Carcinogenic PAHs								
Benzo(a)pyrene	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Dibenzo(a,h)anthracene	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Benzo(a)anthracene	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Benzo(b)fluoranthene	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Indeno(1,2,3-cd)pyrene	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Benzo(k)fluoranthene	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Chrysene	<0.32	0.33	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Creosote/PCP Residues								
Pentachlorophenol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31
2,4,6-Trichlorophenol	<0.32	<0.30	<0.33	<0.30	<0.33	<0.33	<0.33	<0.31

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 8
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY CENTRAL AREA

Noncarcinogenic PAHs	MO-CA-P1-S	MO-CA-P2-W	MO-CA-P3-W	MO-CABS-1	MO-CA5B1-6	MO-CA5B1-6 DUP	MO-CA5B2-6
Duplicate							
Date	6/4/1998	6/4/1998	6/4/1998	6/9/1998	9/1/1998	9/1/1998	9/1/1998
Naphthalene	<0.33	<0.33	<0.33	2.75	<0.33	<0.33	<0.33
Pyrene	<0.33	<0.33	<0.33	2.37	<0.33	<0.33	0.50
2-Methylnaphthalene	<0.33	<0.33	<0.33	1.52	<0.33	<0.33	<0.33
Fluoranthene	<0.33	<0.33	<0.33	2.88	<0.33	<0.33	0.86
Fluorene	<0.33	<0.33	<0.33	1.94	<0.33	<0.33	0.50
Phenanthrene	<0.33	<0.33	<0.33	6.09	<0.33	<0.33	<0.33
Acenaphthene	<0.33	<0.33	<0.33	2.21	<0.33	<0.33	0.73
Anthracene	<0.33	<0.33	<0.33	0.91	<0.33	<0.33	<0.33
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0.00	0.00	0.00	20.67	0.00	0.00	2.59
Carcinogenic PAHs							
Benzo(a)pyrene	<0.33	<0.33	<0.33	0.51	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	<0.33	<0.33	<0.33	0.50	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Chrysene	<0.33	<0.33	<0.33	0.56	<0.33	<0.33	<0.33
Total	0.00	0.00	0.00	1.01	0.00	0.00	0.00
Other Creosote/PCP Residues							
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 8
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY CENTRAL AREA

Noncarcinogenic PAHs	MO-CA5B3-6	MO-CA5B4-6	MO-CA4-B1	MO-CA4-B1	MO-CA4-B2	MO-CA-DL-B1	MO-CA6-BS1
Duplicate				DUP			
Date	9/1/1998	9/1/1998	9/3/1998	9/3/1998	9/3/1998	3/30/1999	4/27/1999
Naphthalene	<0.33	0.62	<0.33	<0.33	<0.31	<0.33	<0.33
Pyrene	1.59	2.27	<0.33	<0.33	<0.31	<0.33	<0.33
2-Methylnaphthalene	<0.33	0.46	<0.33	<0.33	<0.31	<0.33	<0.33
Fluoranthene	1.79	3.17	<0.33	<0.33	0.44	<0.33	<0.33
Fluorene	<0.33	1.49	<0.33	<0.33	<0.31	<0.33	<0.33
Phenanthrene	<0.33	3.14	<0.33	<0.33	<0.31	<0.33	<0.33
Acenaphthene	0.45	1.20	<0.33	<0.33	<0.31	<0.33	<0.33
Anthracene	<0.33	0.71	<0.33	<0.33	<0.31	<0.33	<0.33
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
Total	3.83	13.06	0.00	0.00	0.44	0.00	0.00
Carcinogenic PAHs							
Benzo(a)pyrene	0.76	0.84	<0.33	<0.33	<0.31	<0.33	<0.33
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
Benzo(a)anthracene	0.81	1.03	<0.33	<0.33	<0.31	<0.33	<0.33
Benzo(b)fluoranthene	1.53	1.62	<0.33	<0.33	<0.31	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	1.00	1.05	<0.33	<0.33	<0.31	<0.33	<0.33
Benzo(k)fluoranthene	0.86	0.77	<0.33	<0.33	<0.31	<0.33	<0.33
Chrysene	1.35	1.53	<0.33	<0.33	<0.31	<0.33	<0.33
Total	4.96	5.31	0.00	0.00	0.00	0.00	0.00
Other Creosote/PCP Residues							
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.31	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 8
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF SAMPLES BY CENTRAL AREA

Noncarcinogenic PAHs	MO-CA6-BS2	MO-CA6-BS3	CTDRS1-5	CTDRS1-5	CTDBS-1	CTDBS-2-4	MO-PH-TS
Duplicate				DUP			
Date	4/27/1999	4/27/1999	10/27/1999	10/27/1999	10/29/1999	10/29/1999	11/12/1999
Naphthalene	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
Pyrene	<0.33	<0.33	<0.33	<0.33	6.45	4.77	0.01
2-Methylnaphthalene	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
Fluoranthene	<0.33	<0.33	<0.33	<0.33	6.31	3.46	0.02
Fluorene	<0.33	<0.33	<0.33	<0.33	1.75	<0.63	<0.01
Phenanthrene	<0.33	<0.33	<0.33	<0.33	2.72	1.17	<0.01
Acenaphthene	<0.33	<0.33	<0.33	<0.33	2.79	<0.63	0.04
Anthracene	<0.33	<0.33	<0.33	<0.33	3.25	1.19	<0.01
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	0.70	<0.63	<0.01
Phenol	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
Total	0.00	0.00	0.00	0.00	23.97	10.59	0.07
Carcinogenic PAHs							
Benzo(a)pyrene	<0.33	<0.33	<0.33	<0.33	2.04	2.07	<0.01
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01
Benzo(a)anthracene	<0.33	<0.33	<0.33	<0.33	3.19	2.34	<0.01
Benzo(b)fluoranthene	<0.33	<0.33	<0.33	<0.33	3.99	3.67	<0.01
Indeno(1,2,3-cd)pyrene	<0.33	<0.33	<0.33	<0.33	1.70	1.62	<0.01
Benzo(k)fluoranthene	<0.33	<0.33	<0.33	<0.33	1.58	1.10	<0.01
Chrysene	<0.33	<0.33	<0.33	<0.33	3.40	2.52	<0.01
Total	0.00	0.00	0.00	0.00	12.50	10.80	0.00
Other Creosote/PCP Residues							
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	6.93	1.06	<0.01
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.64	<0.63	<0.01

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 9
Cavenham Forest Industries
CAMU Closure

Culvert Area Summary
18-Dec-02

Noncarcinogenic PAHs	SB-38-4	SB-38-8	SB-38-12	SB-39-4	SB-39-8	SB-40-1	SB-40-4.5	SB-40-12
Naphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Pyrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Methylnaphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluorene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenanthrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0	0	0	0	0
Carcinogenic PAHs								
Benzo(a)pyrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Chrysene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0	0	0	0	0
Other Creosote/PCP Residues								
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Isophorone	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
4-Nitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,3,4,6-Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Diethylphthalate	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Carbazole	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
bis(2-Ethylhexyl)phthalate	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Di-n-octylphthalate	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Trichlorophenols	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0	0	0	0	0

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 9
Cavenham Forest Industries
CAMU Closure

Culvert Area Summary
18-Dec-02

Noncarcinogenic PAHs	SB-41-4	SB-41-8	SB-41-12	SB-42-2	SB-42-8	SB-43-2	SB-43-8	SB-43-10
Naphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Pyrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Methylnaphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluorene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenanthrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0	0	0	0	0
Carcinogenic PAHs								
Benzo(a)pyrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Chrysene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0	0	0	0	0
Other Creosote/PCP Residues								
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Isophorone	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenzofuran	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
4-Nitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,3,4,6-Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Diethylphthalate	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Carbazole	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
bis(2-Ethylhexyl)phthalate	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Di-n-octylphthalate	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Trichlorophenols	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	0	0	0	0	0	0	0	0

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 10
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF CLOSED CENTRAL CAMU

Noncarcinogenic PAHs	MO-CC-B1-6'	MO-CCBS-2	MO-CCP-2	MO-CCBS-2	MO-CCP-2	MO-CC BS3
Duplicate						
Date	3/14/2000	7/10/2000	7/10/2000	7/10/2000	7/10/2000	7/21/2000
Naphthalene	15.70	0.49	<0.33	0.49	<0.33	<0.33
Pyrene	13.80	<0.33	1.48	<0.33	1.48	<0.33
2-Methylnaphthalene	4.61	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	19.10	<0.33	1.11	<0.33	1.11	<0.33
Fluorene	10.70	<0.33	<0.33	<0.33	<0.33	<0.33
Phenanthrene	30.80	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthene	10.00	<0.33	<0.33	<0.33	<0.33	<0.33
Anthracene	5.74	<0.33	0.56	<0.33	0.56	<0.33
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Total	110.45	0.49	3.15	0.49	3.15	0.00
Carcinogenic PAHs						
Benzo(a)pyrene	1.87	<0.33	1.04	<0.33	1.04	<0.33
Dibenzo(a,h)anthracene	<0.33	<0.33	0.38	<0.33	0.38	<0.33
Benzo(a)anthracene	4.22	<0.33	0.62	<0.33	0.62	<0.33
Benzo(b)fluoranthene	2.99	<0.33	1.46	<0.33	1.46	<0.33
Indeno(1,2,3-cd)pyrene	0.74	<0.33	0.74	<0.33	0.74	<0.33
Benzo(k)fluoranthene	0.88	<0.33	0.56	<0.33	0.56	<0.33
Chrysene	3.73	<0.33	0.97	<0.33	0.97	<0.33
Total	10.70	0.00	4.80	0.00	4.80	0.00
Other Creosote/PCP Residues						
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 10
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF CLOSED CENTRAL CAMU

Noncarcinogenic PAHs	MO-CC BS-4	MO-CC P3	MO-CC TP-1	MO-CC TP-2	MO-CC TP-3
Duplicate					
Date	7/21/2000	7/21/2000	7/21/2000	7/21/2000	7/21/2000
Naphthalene	<0.33	<0.33	<0.33	<0.33	<0.33
Pyrene	1.84	<0.33	<0.33	<0.33	<0.33
2-Methylnaphthalene	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	2.08	<0.33	<0.33	<0.33	<0.33
Fluorene	<0.33	<0.33	<0.33	<0.33	<0.33
Phenanthrene	0.59	<0.33	<0.33	<0.33	<0.33
Acenaphthene	<0.33	<0.33	<0.33	<0.33	<0.33
Anthracene	0.36	<0.33	<0.33	<0.33	<0.33
p-chloro-m-cresol	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	<0.33	<0.33	<0.33	<0.33	<0.33
Tetrachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	<0.33	<0.33	<0.33	<0.33	<0.33
Phenol	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	<0.33	<0.33	<0.33	<0.33	<0.33
Total	4.87	0.00	0.00	0.00	0.00
Carcinogenic PAHs					
Benzo(a)pyrene	0.38	<0.33	<0.33	<0.33	<0.33
Dibenzo(a,h)anthracene	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)anthracene	0.68	<0.33	<0.33	<0.33	<0.33
Benzo(b)fluoranthene	0.78	<0.33	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)pyrene	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)fluoranthene	<0.33	<0.33	<0.33	<0.33	<0.33
Chrysene	0.50	<0.33	<0.33	<0.33	<0.33
Total	1.84	0.00	0.00	0.00	0.00
Other Creosote/PCP Residues					
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 11
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF HDPE GEOMEMBRANE LINER WIPE SAMPLES

Noncarcinogenic PAHs	LINER #1G	LINER #1W	LINER #2G	LINER #2W	LINER #3G	LINER #3W	LINER #4G	LINER #4W	LINER S#1	LINER S#2
Date	02/08/02	02/08/02	02/08/02	02/08/02	02/08/02	02/08/02	02/08/02	02/08/02	06/21/02	06/21/02
Naphthalene	3.61	<0.01	<0.33	<0.01	0.47	<0.01	<0.33	<0.01	<0.33	<0.33
Pyrene	39.40	<0.01	0.69	<0.01	1.91	<0.01	0.54	0.07	1.54	3.02
2-Methylnaphthalene	13.10	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Fluoranthene	68.80	<0.01	1.27	<0.01	3.86	<0.01	1.01	0.16	0.00	0.00
Fluorene	52.20	<0.01	<0.33	<0.01	0.93	<0.01	<0.33	0.04	0.00	0.00
Phenanthrene	133.00	<0.01	0.78	<0.01	3.36	<0.01	0.68	0.21	0.33	1.42
Acenaphthene	61.00	<0.01	<0.33	<0.01	1.07	<0.01	0.43	0.02	0.00	0.00
Anthracene	12.10	<0.01	<0.33	<0.01	0.35	<0.01	<0.33	0.02	0.00	0.00
p-chloro-m-cresol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
2,4-Dinitrophenol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Tetrachlorophenol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Acenaphthylene	0.64	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Phenol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
2-Chlorophenol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
2,4-Dimethylphenol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Total	383.85	0.00	2.74	0.00	11.95	0.00	2.66	0.52	1.87	4.44
Carcinogenic PAHs										
Benzo(a)pyrene	0.72	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Dibenzo(a,h)anthracene	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Benzo(a)anthracene	4.36	<0.01	<0.33	<0.01	0.35	<0.01	<0.33	<0.01	0.00	0.00
Benzo(b)fluoranthene	1.95	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Indeno(1,2,3-cd)pyrene	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Benzo(k)fluoranthene	0.81	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00
Chrysene	4.81	<0.01	<0.33	<0.01	0.57	<0.01	<0.33	0.02	0.00	0.00
Total	12.65	0.00	0.00	0.00	0.92	0.00	0.00	0.02	0.00	0.00
Other Creosote/PCP Residues										
Pentachlorophenol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.33
2,4,6-Trichlorophenol	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	<0.33	<0.01	0.00	0.00

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

TABLE 11
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF HDPE GEOMEMBRANE LINER WIPE SAMPLES

Noncarcinogenic PAHs	LINER S#3	LINER S#4	LINER 5	LINER 6	LINER 7	LINER 8	MOLINER#9	MOLINER#10	MOLINER#11	MOLINER#12
Duplicate				DUP						
Date	06/21/02	06/21/02	07/12/02	07/12/02	07/12/02	07/12/02	08/21/02	08/21/02	08/21/02	08/21/02
Naphthalene	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Pyrene	1.54	4.15	1.43	<0.33	4.12	3.84	0.47	0.92	0.36	0.95
2-Methylnaphthalene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fluoranthene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fluorene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phenanthrene	0.73	1.04	2.26	0.39	2.95	3.75	<0.33	0.53	0.41	<0.33
Acenaphthene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anthracene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p-chloro-m-cresol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,4-Dinitrophenol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tetrachlorophenol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Acenaphthylene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phenol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-Chlorophenol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,4-Dimethylphenol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.27	5.19	3.69	0.39	7.07	7.59	0.47	1.45	0.77	0.95
Carcinogenic PAHs										
Benzo(a)pyrene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dibenzo(a,h)anthracene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzo(a)anthracene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzo(b)fluoranthene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indeno(1,2,3-cd)pyrene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Benzo(k)fluoranthene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chrysene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Creosote/PCP Residues										
Pentachlorophenol	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4,6-Trichlorophenol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

All analytical units are in mg/kg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

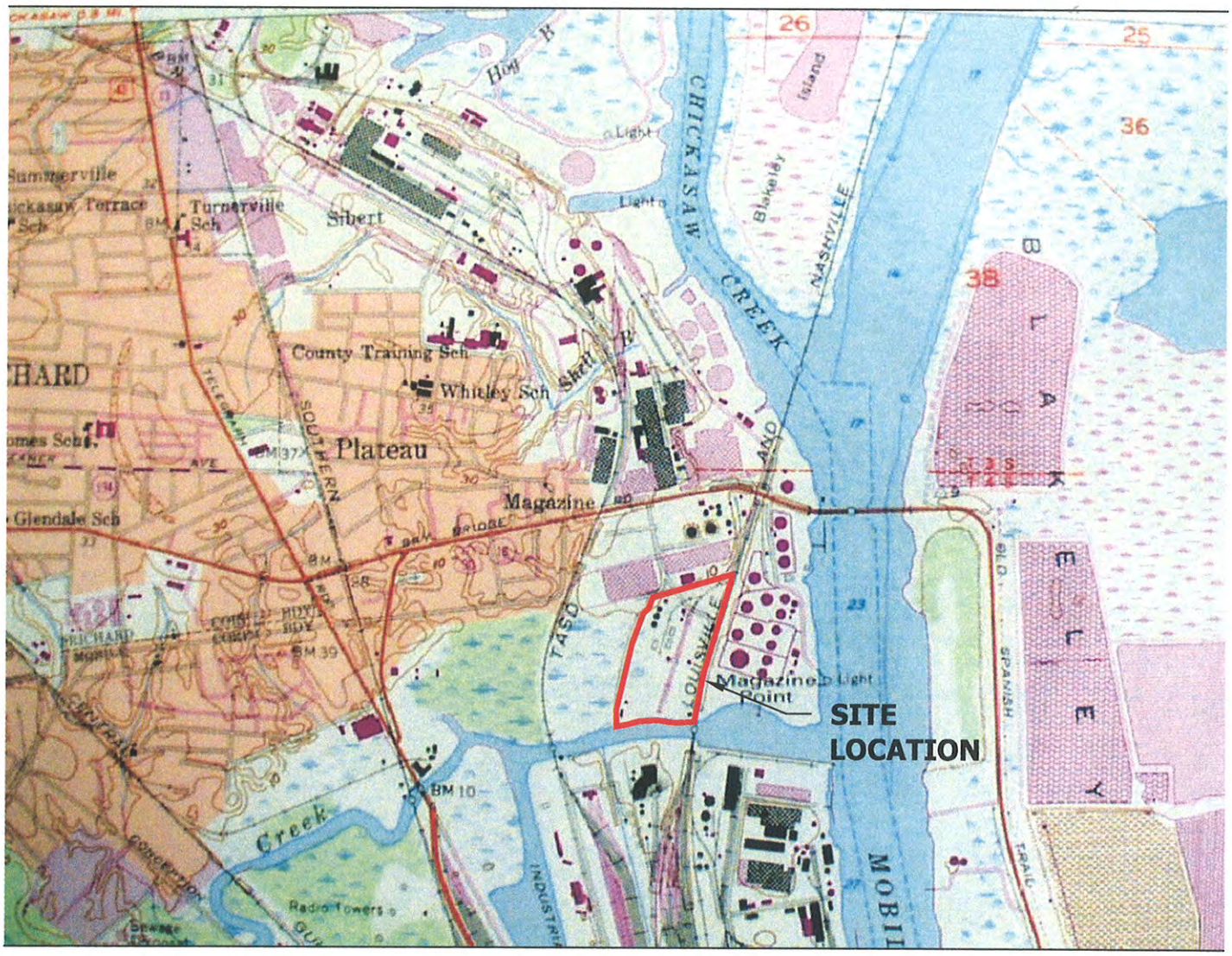
TABLE 12
Cavenham Forest Industries
CAMU Closure

ANALYTICAL SUMMARY OF TANK SEDIMENTS

Noncarcinogenic PAHs	MOCENTERTANK	MOSOUTHTANK	MONORTHTANK
Date	07/26/02	07/26/02	08/05/02
Naphthalene	<1.65	<1.65	<0.33
Pyrene	8.45	4.93	0.62
2-Methylnaphthalene	<1.65	<1.65	<0.33
Fluoranthene	11.70	6.80	0.85
Fluorene	<1.65	<1.65	<0.33
Phenanthrene	3.60	<1.65	0.38
Acenaphthene	<1.65	<1.65	<0.33
Anthracene	<1.65	6.59	0.59
p-chloro-m-cresol	<1.65	<1.65	<0.33
2,4-Dinitrophenol	<1.65	<1.65	<0.33
Tetrachlorophenol	<1.65	<1.65	<0.66
Acenaphthylene	<1.65	<1.65	<0.33
Phenol	<1.65	<1.65	<0.33
2-Chlorophenol	<1.65	<1.65	<0.33
2,4-Dimethylphenol	<1.65	<1.65	<0.33
Total	23.75	18.32	2.44
Carcinogenic PAHs			
Benzo(a)pyrene	3.50	2.76	0.43
Dibenzo(a,h)anthracene	<1.65	1.94	<0.33
Benzo(a)anthracene	3.50	2.16	<0.33
Benzo(b)fluoranthene	6.00	5.11	0.64
Indeno(1,2,3-cd)pyrene	2.22	1.87	0.53
Benzo(k)fluoranthene	3.10	2.28	<0.33
Chrysene	4.25	3.15	0.34
Total	22.57	19.27	1.94
Other Creosote/PCP Residues			
Pentachlorophenol	2.10	2.35	0.51
2,4,6-Trichlorophenol	<1.65	<1.65	<0.33

All analytical units are in mg/kg

FIGURES



1000500 0 1000 2000 3000 4000

Scale (Feet)

N

REFERENCE: U.S.G.S. TOPOGRAPHIC MAP
7.5 MINUTE SERIES
MOBILE, ALABAMA

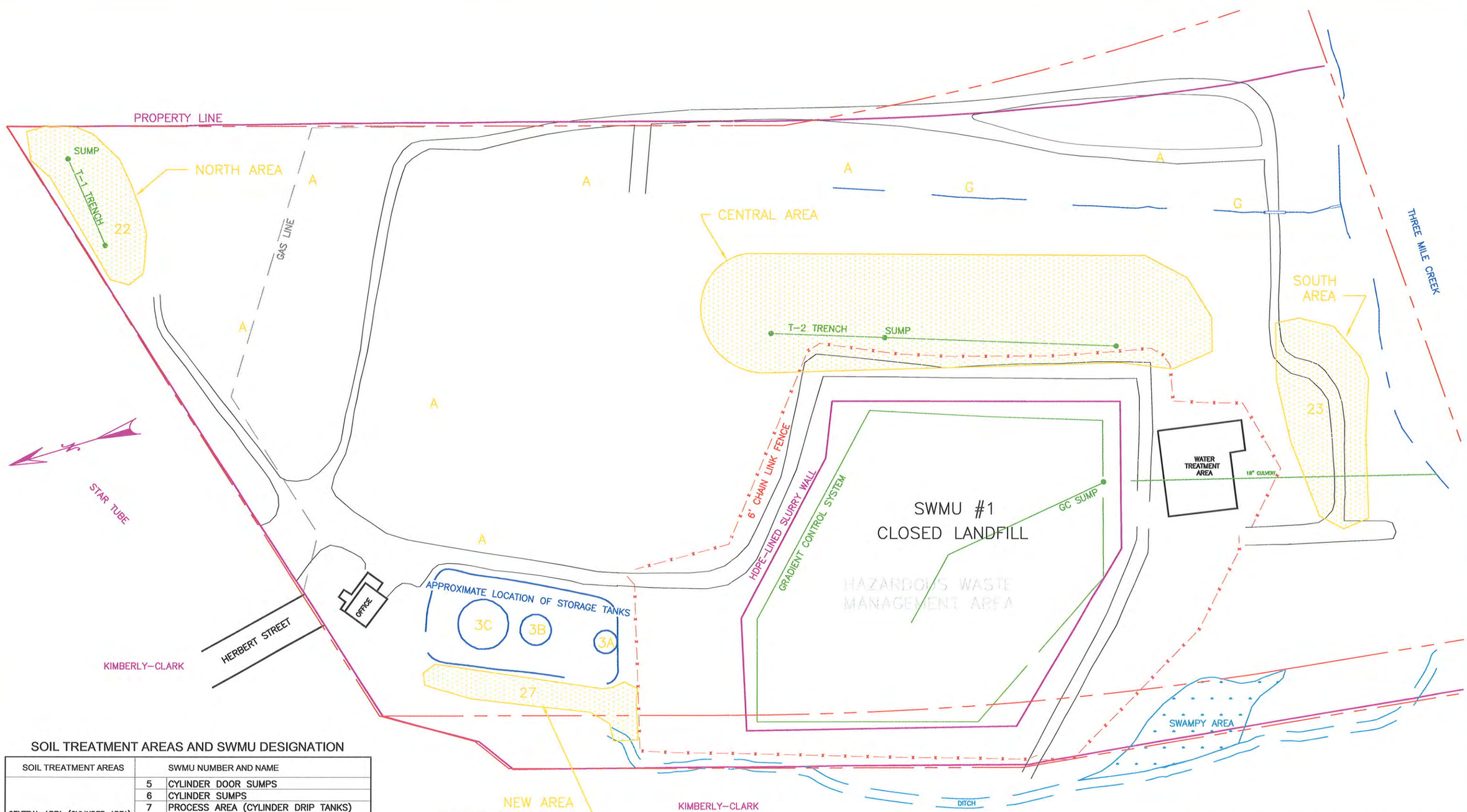
SITE LOCATION

CAVENHAM FOREST INDUSTRIES, INC. – MOBILE, ALABAMA

DATE: 6/10/02	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. SITE LOC MAP

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 1



SOIL TREATMENT AREAS AND SWMU DESIGNATION

SOIL TREATMENT AREAS	SWMU NUMBER AND NAME	
CENTRAL AREA (CYLINDER AREA)	5	CYLINDER DOOR SUMPS
	6	CYLINDER SUMPS
	7	PROCESS AREA (CYLINDER DRIP TANKS)
	11	BAROMETRIC CONDENSER
	24C	SPOT DEPOSIT
	AOC A	TREATED WOOD STORAGE AREA (PARTIAL)
	AOC G	EASTERN DRAINAGE DITCH (PARTIAL)
	AOC F	WORKING TANK NO. 2
NORTH AREA	AOC A	TREATMENT STORAGE AREA
	22	NORTH TAR DEPOSIT
SOUTH AREA	23	CREEK TAR DEPOSIT
	AOC A	TREATED WOOD STORAGE AREA (PARTIAL)
NEW AREA BEHIND TANK FARM	27	NEW AREA BEHIND TANK FARM
		18" CULVERT

ESTIMATED EXTENTS OF REGULATED UNITS

CAVENHAM FOREST INDUSTRIES, INC. – MOBILE, AL

DATE: 7/18/02	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: 1" = 125'		CAD NO. REGULATED UNITS

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 2

PROPERTY LINE

SUMP

T-1 TRENCH

GAS LINE

NORTH AREA
CORRECTIVE ACTION
MANAGEMENT UNIT
(CAMU)

CENTRAL AREA
CORRECTIVE ACTION
MANAGEMENT UNIT
(CAMU)

T-2 TRENCH

SUMP

THREE MILE CREEK

6' CHAIN LINK FENCE

HDPE-LINED SLURRY WALL

GRADIENT CONTROL SYSTEM

GC SUMP

WATER
TREATMENT
AREA

HAZARDOUS WASTE
MANAGEMENT AREA

STAR TUBE

OFFICE

APPROXIMATE LOCATION OF STORAGE TANKS

HERBERT STREET

KIMBERLY-CLARK

KIMBERLY-CLARK

SWAMPY AREA

DITCH

SCALE: 1" = 125'

125 62.5 0 62.5 125

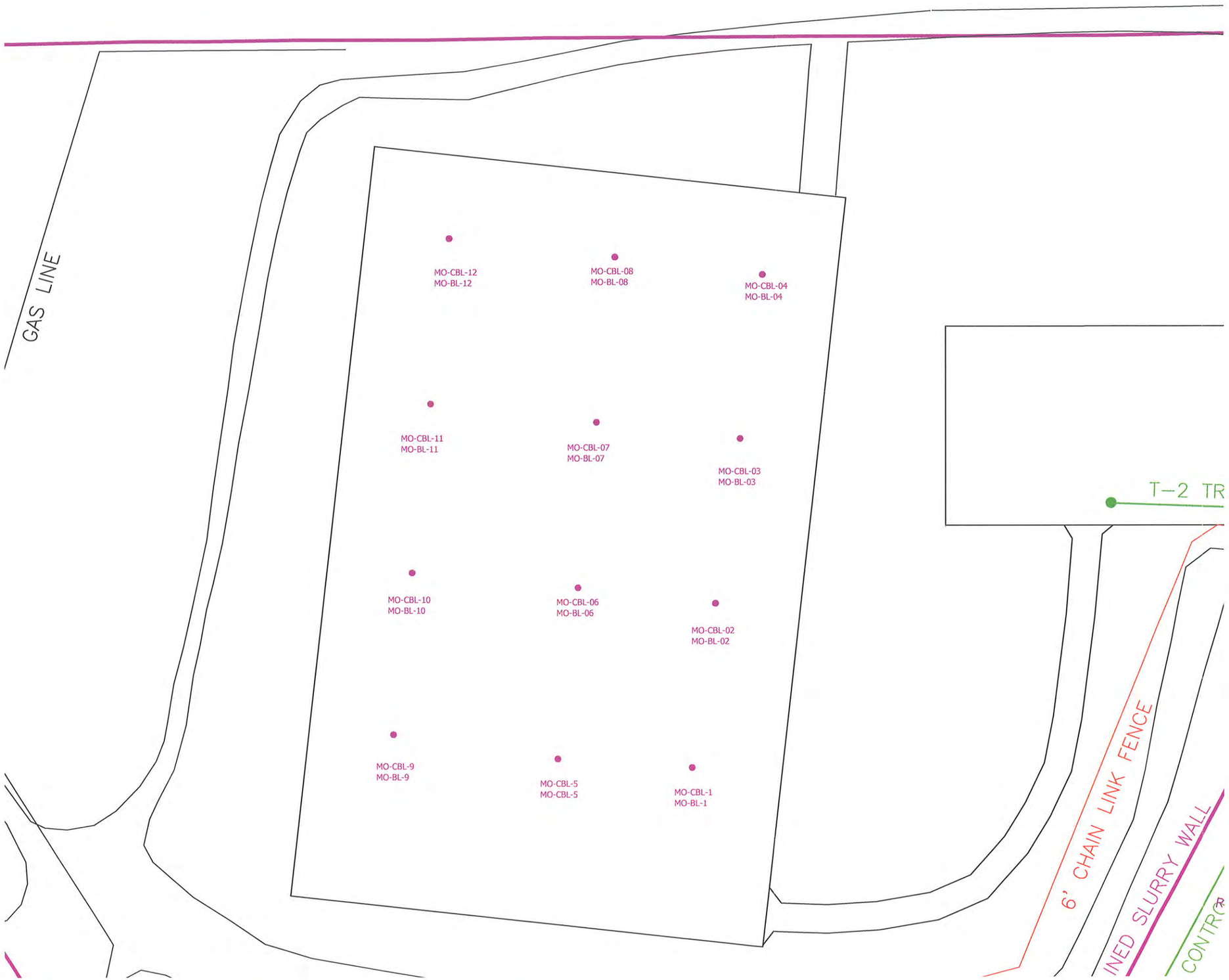
NORTH CAMU AND CENTRAL CAMU LOCATIONS

CAVENHAM FOREST INDUSTRIES, INC. – MOBILE, AL

DATE: 7/18/02	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK	
SCALE: 1" = 125'		CAD NO. SITE MAP	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 3



SCALE 1 INCH = 60 FEET

15 30 60

0 15 30 60 120

LEGEND

MO-CBL-03 CONFIRMATION SAMPLING LOCATION

MO-BL-03 BASELINE SAMPLING LOCATION

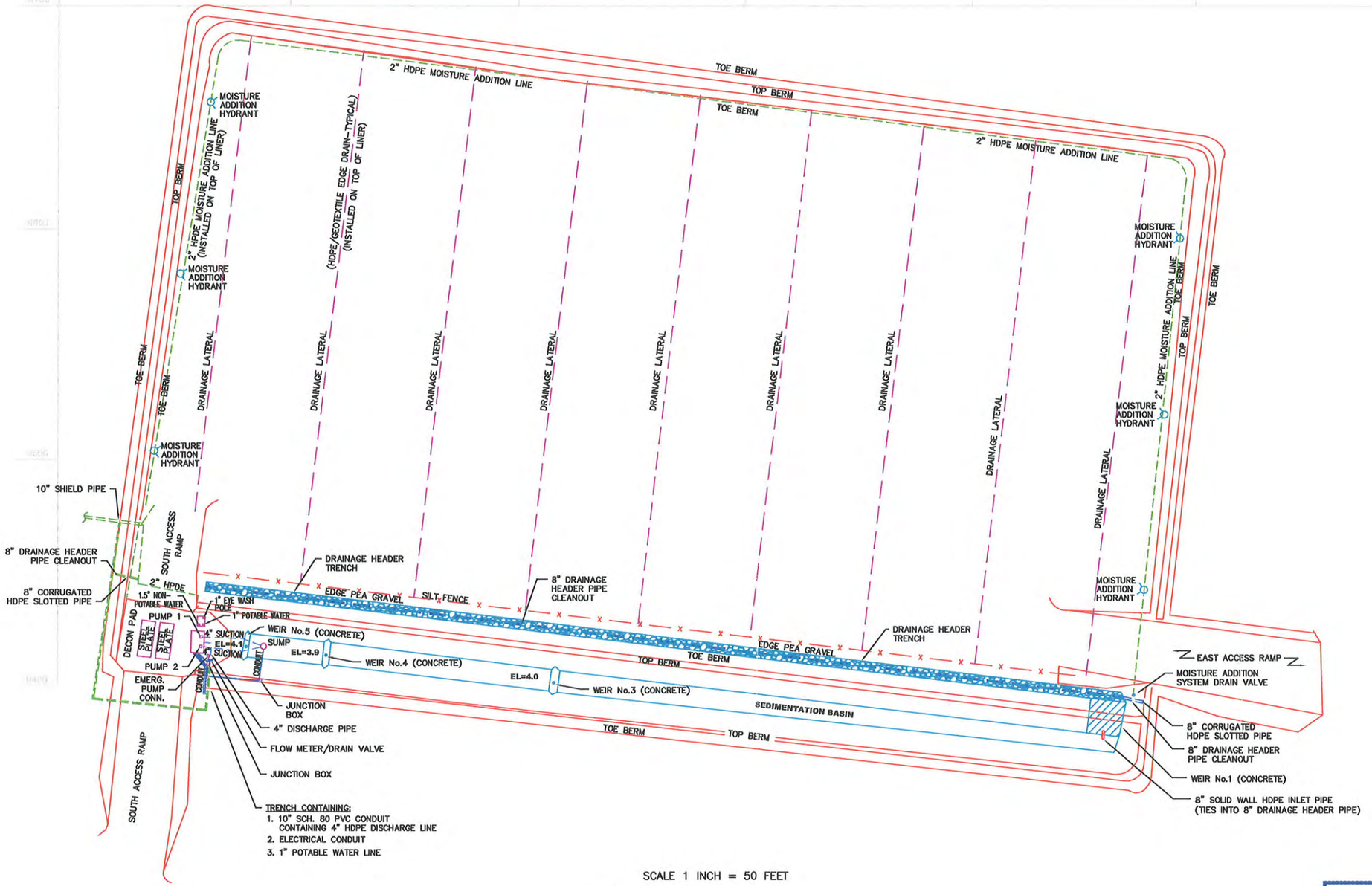
NORTH CAMU BASELINE (BL) SAMPLE LOCATIONS

CAVENHAM FOREST INDUSTRIES, INC. – MOBILE, AL

DATE: 7/18/02	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: 1" = 60'		CAD NO. SAMPLE LOCATIONS

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 5



SCALE 1 INCH = 50 FEET

25 25 50 50

0 12.5 25 50 100

NOTE: WEIR NO.2 WAS NOT CONSTRUCTED.

NORTH CAMU AS-BUILT

CAVENHAM FOREST INDUSTRIES, INC.
MOBILE, ALABAMA

DATE: 5/10/01	APPROVED: BY: _____ DATE: _____	DRAWN BY: K.R.K.
SCALE: 1" = 50'		CAD NO. Fig H-2 – CAMU As-built.dwg

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 6

PROPERTY LINE

MO-NA-PO1-NE

MO-NA-BS1

MO-NA-PO2-NE

SUMP

MO-NA-BO1-NE

T-1 TRENCH

EXCAVATION LIMITS

22

GAS LINE

A

EXCAVATION LIMITS

CTDBS-1

CTDBS-2-4

CTDRS1-5

MO-CABS1

MO-CA4-B1

MO-CA4-B2

MO-CA-B01

MO-CC-B1-6

MO-CA-B03

MO-CC P3

CC-P1WEST

T-2 TRENCH

SUMP

MO-CA-B02

MO-CA-B04

EXCAVATION LIMITS

MO-CA-D01

BS1-5129B-6

MO-CA-P3-W

BS2-5198-(6 & 12)

MO-CA-P1-S

MO-CA-P2-W

MO-CA5B1-6

MO-CA5B2-6

MO-CA5B3-6

MO-CA5B4-6

G

MO-CA-DL-B1

EXCAVATION LIMITS

MO-CA6-BS2

MO-CA6-BS3

MO-CA6-BS1

MO-CC TP-1

MO-CC TP-2

MO-CC TP-3

MO-CC BS-3

MOCC BS-4

MO-CC BS-2

MO-CCP-2

MO-PH-TS

EXCAVATION LIMITS

23

THREE MILE CREEK

6' CHAIN LINK FENCE

HDPE-LINED SLURRY WALL

GRADIENT CONTROL SYSTEM

GC SUMP

HAZARDOUS WASTE MANAGEMENT AREA

WATER TREATMENT AREA

MO-P-3E

MO-P-2C

MO-P-1W

EXCAVATION LIMITS

SP-TP11

SP-TP19

SW-7BS6

SP-TP10SW06

SP-TP24SW17

EXCAVATION LIMITS

SP-TP09SW05

SW-7BS5

SP-TP21SW07

SP-TP23SW16

SP-TP18SW13

SP-TP08

SP-TP13SW08

SW-7BS4

SP-TP17SW12

SP-TP22SW15

SP-TP06W04

SWMS-1-5

SP-TP16SW11

SP-TP21SW14

SW-7BS3

SP-TP06

SP-TP15SW10

SW-7BS2

SP-TP05

SP-TP02

SW-7BS1

SP-TP04SW03

SWAMPY AREA

SP-TP02SW02

SP-TP01SW01

EXCAVATION LIMITS

DITCH

KIMBERLY-CLARK

STAR TUBE

HERBERT STREET

OFFICE

APPROXIMATE LOCATION OF STORAGE TANKS

RW-31

RW-32

RW-28

RW-30

27

KIMBERLY-CLARK

SOIL TREATMENT AREAS AND SWMU DESIGNATION

SOIL TREATMENT AREAS	SWMU NUMBER AND NAME	
CENTRAL AREA (CYLINDER AREA)	5	CYLINDER DOOR SUMPS
	6	CYLINDER SUMPS
	7	PROCESS AREA (CYLINDER DRIP TANKS)
	11	BAROMETRIC CONDENSER
	24C	SPOT DEPOSIT
	AOC A	TREATED WOOD STORAGE AREA (PARTIAL)
	AOC G	EASTERN DRAINAGE DITCH (PARTIAL)
	AOC F	WORKING TANK NO. 2
NORTH AREA	AOC A	TREATMENT STORAGE AREA
	22	NORTH TAR DEPOSIT
SOUTH AREA	23	CREEK TAR DEPOSIT
	AOC A	TREATED WOOD STORAGE AREA (PARTIAL)
NEW AREA BEHIND TANK FARM	27	NEW AREA BEHIND TANK FARM
		18" CULVERT

LEGEND

EXCAVATION LIMITS

SCALE: 1" = 125'

125 62.5 0 62.5 125

SWMU AND AOC EXCAVATIONS LOCATION

CAVENHAM FOREST INDUSTRIES, INC. – MOBILE, AL

DATE: 7/18/02	APPROVED: BY: DATE:	DRAWN BY: KRK
SCALE: 1" = 125'		CAD NO. EXCAVATION SAMPLE LOCATIONS

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 7

ATTACHMENT I

DOCUMENTATION OF CLOSURE ON DEED

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

Mikell D. Speaks & Associates
Consulting Engineers Incorporated

Mobile Office:
732 Oak Circle Drive West
Mobile, Alabama 36609
(205) 666-4646
Fax 205-666-8868

Baldwin County Office:
136 Cove Avenue
P. O. Box 2794
Gulf Shores, Alabama 3654.
(205) 968-8518

August 9, 1990

Mr. Winston Russell
Cavenham Forest Industries, Inc.
P. O. Box 2219
Gulfport, Mississippi 39503

RE: Plant Site, Mobile, Alabama

Dear Mr. Russell:

We are forwarding to you copies of the following documents which we recently recorded relative to the closeout of the above referenced site:

1. Declaration of Notice of Use Restrictions for Cavenham Forest Industries, Inc., recorded in Real Property Book 3606, Pages 702-703.

2. Declaration of Notice to Deed for Cavenham Forest Industries, Inc., recorded in Real Property Book 3605, Pages 423-424.

3. Survey of Hazardous Waste Management Area recorded in Map Book 48, Page 39.

The original recorded documents will not be returned from the Probate Court for several weeks yet. However, should you have need of them, we will be happy to provide them to you as soon as they are returned. Please advise if you do have need of the original documents.

If there are any questions or we can be of further assistance to you on this project, please let us know.

Sincerely,

MIKELL D. SPEAKS & ASSOCIATES
CONSULTING ENGINEERS, INC.

William G. Luker

WGL/bh

Enclosures

Real Prop. Book 3605, Pgs. 423-424

STATE OF ALABAMA)
COUNTY OF MOBILE)

DECLARATION OF NOTICE TO DEED

FOR

CAVENHAM FOREST INDUSTRIES, INC.

KNOW ALL MEN BY THESE PRESENTS, that this Notice to Deed is herewith provided by CAVENHAM FOREST INDUSTRIES, INC., hereinafter sometimes referred to as the "Owner";

W I T N E S S E T H :

WHEREAS, the undersigned is the Owner of the real property in the County of Mobile, Alabama, and described as follows:

That parcel of land located in Section 44, Township 4 South, Range 1 West, Mobile County, Alabama, being more particularly described as follows: Commencing at the site of the Great Magnolia, Mobile County, Alabama; thence North 81°-32' East and along the North line of Lot 9 of the Northbend Division of the St. Louis Tract, 1262.60 feet to a point on the East right-of-way line of Herbert Street; thence South 11°-13' East and along said East line of Herbert Street, 578.09 feet to a point on the South line of Lot 7 of the said Northbend Division of the St. Louis Tract; thence South 75°-30' West and along the said South line of Lot 7, 192.25 feet to a concrete monument; thence South 32°-44'-00" West 130.17 feet; thence South 56°-43'-15" West 57.48 feet; thence South 17°-41'-00" West 676.16 feet; thence South 08°-15'-00" West 39.41 feet to the point of beginning of the property herein described, said property being the fenced perimeter of the Hazardous Material Waste Management Area; thence along the fenced perimeter, South 18°-55'-29" West 19.31 feet; thence South 28°-24'-23" East 242.65 feet; thence South 45°-13'-01" East 116.40 feet; thence South 80°-46'-21" East 310.28 feet; thence North 19°-05'-31" East 571.48 feet; thence North 38°-39'-25" West 280.35 feet; thence North 59°-08'-22" West 115.28 feet; thence North 73°-48'-13" West 241.50 feet; thence South 18°-55'-29" West 551.85 feet to the point of beginning; and

NOW, THEREFORE, Owner is providing the following notice:

NOTICE TO DEED

The property within the herein described boundaries has been used for the management of K001 Hazardous Waste, "Bottom Sediment Sludge from the Treatment of Wastewaters from Wood Preserving Processes that Use Creosote and/or Pentachlorophenol." The Hazardous Waste Management Area contains approximately 35.6 acre-feet of solidified K001 sludge and K001 contaminated soil. The use of this property is restricted under 40 CFR Subpart G and the Alabama Department of Environmental Management Administrative Code (Division 14). A survey plat is recorded in Map Book 48, Page 39 of the records in the Office of the Judge of Probate, Mobile County, Alabama, and Notice of Use Restrictions of the said

property has been filed with the Alabama Department of Environmental Management, and is recorded in Real Property Book 3606, Pages 702 - 703 in the Office of the Mobile County Clerk, Mobile, Alabama.

IN WITNESS WHEREOF, CAVENHAM FOREST INDUSTRIES, INC. has caused this instrument to be executed in its name and on its behalf by its officer thereunto duly authorized on the date set out in the acknowledgement below.

Lee T. Alford, Vice President

STATE OF MISSISSIPPI)
COUNTY OF Pike)

I, the undersigned Notary Public in and for said County in said State, hereby certify that Lee T. Alford, whose name as Vice President of Cavenham Forest Industries, Inc. is signed to the foregoing instrument, and who is known to me, acknowledged before me on this day, that being informed of the contents of the instrument, he as such officer, and with full authority, executed the same voluntarily for and as the act of said corporation.

Given under my hand and seal this the 31 day of August, 1990.

Notary Public

My Commission Expires October 3, 1992

This instrument prepared by:

Mikell D. Speaks
Mikell D. Speaks & Associates
732 Oak Circle Drive West
Mobile, Alabama 36609

Real Prop. Book 3606, Pgs. 702-703

STATE OF ALABAMA)
COUNTY OF MOBILE)

DECLARATION OF NOTICE OF USE RESTRICTIONS

FOR

CAVENHAM FOREST INDUSTRIES, INC.

KNOW ALL MEN BY THESE PRESENTS, that this Notice of Use Restrictions is herewith enacted by CAVENHAM FOREST INDUSTRIES, INC., hereinafter sometimes referred to as the "Owner";

W I T N E S S E T H :

WHEREAS, the undersigned is the Owner of the real property in the County of Mobile, Alabama, and described as follows:

That parcel of land located in Section 44, Township 4 South, Range 1 West, Mobile County, Alabama, being more particularly described as follows: Commencing at the site of the Great Magnolia, Mobile County, Alabama; thence North 81°-32' East and along the North line of Lot 9 of the Northbend Division of the St. Louis Tract, 1262.60 feet to a point on the East right-of-way line of Herbert Street; thence South 11°-13' East and along said East line of Herbert Street, 578.09 feet to a point on the South line of Lot 7 of the said Northbend Division of the St. Louis Tract; thence South 75°-30' West and along the said South line of Lot 7, 192.25 feet to a concrete monument; thence South 32°-44'-00" West 130.17 feet; thence South 56°-43'-15" West 57.48 feet; thence South 17°-41'-00" West 676.16 feet; thence South 08°-15'-00" West 39.41 feet to the point of beginning of the property herein described, said property being the fenced perimeter of the Hazardous Material Waste Management Area; thence along the fenced perimeter, South 18°-55'-29" West 19.31 feet; thence South 28°-24'-23" East 242.65 feet; thence South 45°-13'-01" East 116.40 feet; thence South 80°-46'-21" East 310.28 feet; thence North 19°-05'-31" East 571.48 feet; thence North 38°-39'-25" West 280.35 feet; thence North 59°-08'-22" West 115.28 feet; thence North 73°-48'-13" West 241.50 feet; thence South 18°-55'-29" West 551.85 feet to the point of beginning; and

WHEREAS, Owner is desirous of advising the public of certain restrictions and conditions of use (hereinafter collectively referred to as "restrictions") upon the above described property in order (a) to protect the public against improper use of the Hazardous Waste Management Area, (b) to preserve the remediation measures taken on said property, (c) to comply with applicable public laws, and (d) in general, to assure the most appropriate use of the property described.

NOW, THEREFORE, the Owner does hereby advise of the following protective restrictions:

NOTICE OF USE RESTRICTIONS

Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Department finds that the disturbance:

1. Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

2. Is necessary to reduce a threat to human health or the environment.

Reference: Alabama Department of Administrative Code
Division 14 Hazardous Waste Program
Section 14-5-.07 (8)(c)

IN WITNESS WHEREOF, CAVENHAM FOREST INDUSTRIES, INC. has caused this instrument to be executed in its name and on its behalf by its officer thereunto duly authorized on the date set out in the acknowledgement below.

Lee T. Alford, Vice President

STATE OF MISSISSIPPI)
COUNTY OF P. [illegible])

I, the undersigned Notary Public in and for said County in said State, hereby certify that Lee T. Alford, whose name as Vice President of Cavenham Forest Industries, Inc., is signed to the foregoing instrument, and who is known to me, acknowledged before me on this day that, being informed of the contents of the instrument, he as such officer, and with full authority, executed the same voluntarily for and as the act of said corporation.

Given under my hand and seal this the 31st day of [illegible], 1990.

Notary Public

My Commission Expires October 3, 1992

This instrument prepared by:

Mikell D. Speaks
Mikell D. Speaks & Associates
Consulting Engineers, Inc.
732 Oak Circle Drive West
Mobile, Alabama 36609

WASTE MANG. Inc
CROWN ZELL

L.W. NOONAN, JUDGE
PROBATE COURT OF MOBILE COUNTY
P.O. BOX 7 • MOBILE, ALABAMA 36601 205/690-8497

RECEIPT NO. 90039868

DATE 08/03/90

RECEIVED OF: MIKELL SPEAKS

INST TYPE 71

DEED AMT	$.00	DEED TAX	$.00
MTG AMT	$.00	MTG TAX	$.00
		MIN TAX	$.00
		RECORD FEE	$11.00
		SURCHARGE	
		TOTAL	$11.00

Map BK 48 Pg 39

BY JP

C

L.W. NOONAN, JUDGE
PROBATE COURT OF MOBILE COUNTY
P.O. BOX 7 • MOBILE, ALABAMA 36601 205/690-8497

RECEIPT NO. 90039866

DATE 08/03/90

RECEIVED OF: MIKELL SPEAKS

INST TYPE 18

Rel. Prop. BK. 3606
Pgs. 702-703

DEED AMT	$.00	DEED TAX	$.00
MTG AMT	$.00	MTG TAX	$.00
		MIN TAX	$.00
		RECORD FEE	$6.00
		SURCHARGE	
		TOTAL	$6.00

BY JP

L.W. NOONAN, JUDGE

PROBATE COURT OF MOBILE COUNTY

P.O. BOX 7 • MOBILE, ALABAMA 36601 205/690-8497

RECEIPT NO. 90040697 DATE 08/08/90

RECEIVED OF MICHAEL SPEAKS

INST TYPE

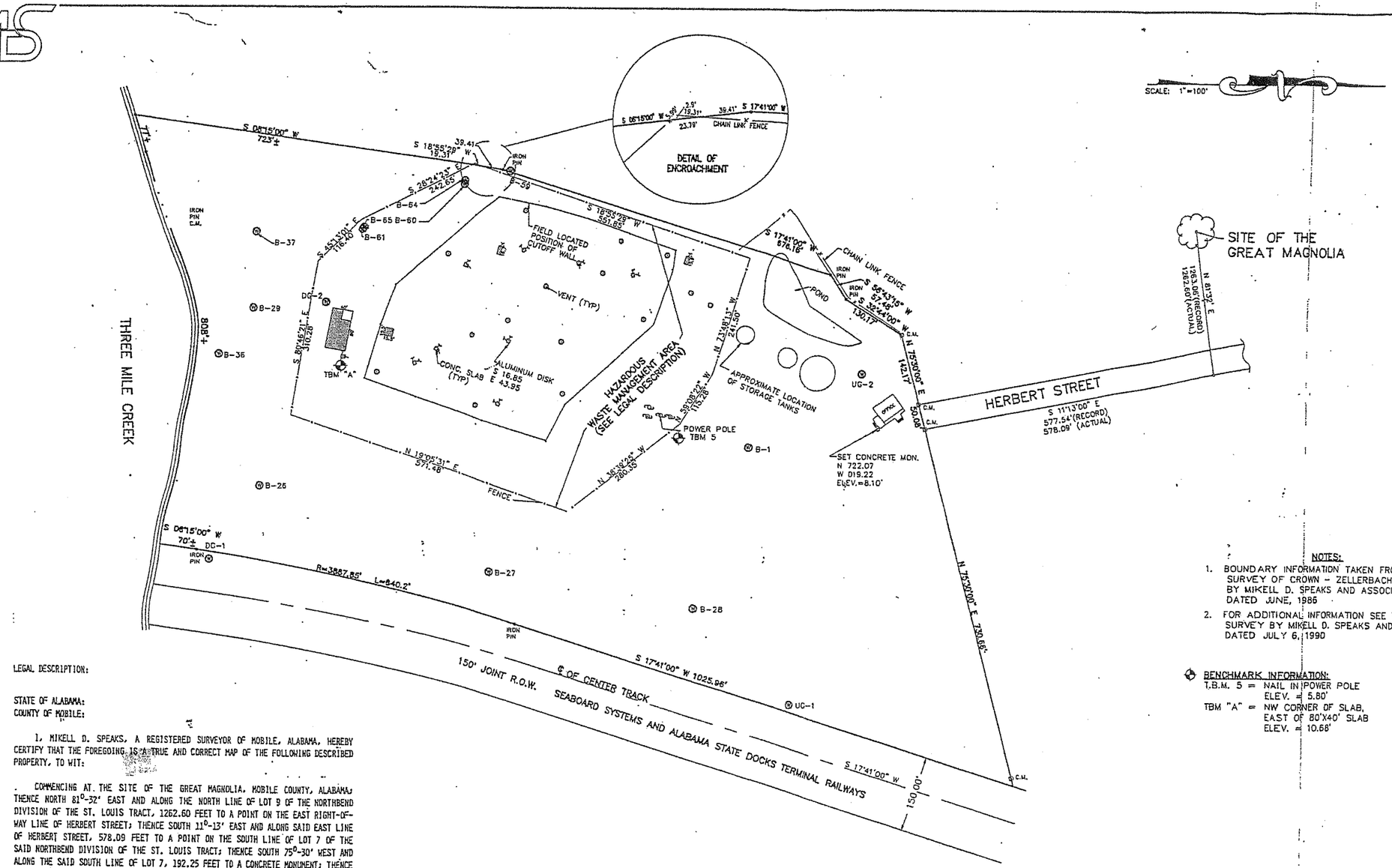
00

DEED AMT	$.00	DEED TAX	$.00
MTG AMT	$.00	MTG TAX	$.00
		MIN TAX	$.00
		RECORD FEE	$6.00
		SURCHARGE	
		TOTAL	$6.00

Rel. Prop. Book 3605, Pgs. 423-424

BY DK

MB. 98 PG 39



NOTES:

1. BOUNDARY INFORMATION TAKEN FROM A BOUNDARY SURVEY OF CROWN – ZELLERBACH PROPERTY BY MIKELL D. SPEAKS AND ASSOCIATES DATED JUNE, 1985
2. FOR ADDITIONAL INFORMATION SEE TOPOGRAPHIC SURVEY BY MIKELL D. SPEAKS AND ASSOCIATES DATED JULY 6, 1990

BENCHMARK INFORMATION:
T.B.M. 5 = NAIL IN POWER POLE ELEV. = 5.80'
TBM "A" = NW CORNER OF SLAB, EAST OF 80'X40' SLAB ELEV. = 10.68'

LEGAL DESCRIPTION:

STATE OF ALABAMA:
COUNTY OF MOBILE:

I, MIKELL D. SPEAKS, A REGISTERED SURVEYOR OF MOBILE, ALABAMA, HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT MAP OF THE FOLLOWING DESCRIBED PROPERTY, TO WIT:

COMMENCING AT THE SITE OF THE GREAT MAGNOLIA, MOBILE COUNTY, ALABAMA; THENCE NORTH 81°-32' EAST AND ALONG THE NORTH LINE OF LOT 9 OF THE NORTHBEND DIVISION OF THE ST. LOUIS TRACT, 1262.60 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF HERBERT STREET; THENCE SOUTH 11°-13' EAST AND ALONG SAID EAST LINE OF HERBERT STREET, 578.09 FEET TO A POINT ON THE SOUTH LINE OF LOT 7 OF THE SAID NORTHBEND DIVISION OF THE ST. LOUIS TRACT; THENCE SOUTH 75°-30' WEST AND ALONG THE SAID SOUTH LINE OF LOT 7, 192.25 FEET TO A CONCRETE MONUMENT; THENCE SOUTH 32°-44'-00" WEST 130.17 FEET; THENCE SOUTH 56°-43'-15" WEST 57.48 FEET; THENCE SOUTH 17°-41'-00" WEST 676.16 FEET; THENCE SOUTH 08°-15'-00" WEST 39.41 FEET TO THE POINT OF BEGINNING OF THE PROPERTY HEREIN DESCRIBED, SAID PROPERTY BEING THE FENCED PERIMETER OF THE HAZARDOUS MATERIAL WASTE MANAGEMENT AREA; THENCE ALONG THE FENCED PERIMETER, SOUTH 18°-55'-29" WEST, 19.31 FEET; THENCE SOUTH 28°-24'-23" EAST 242.65 FEET; THENCE SOUTH 45°-13'-01" EAST 116.40 FEET; THENCE SOUTH 80°-46'-21" EAST 310.28 FEET; THENCE NORTH 19°-05'-31" EAST 571.48 FEET; THENCE NORTH 38°-39'-25" WEST 280.35 FEET; THENCE NORTH 59°-08'-22" WEST 115.28 FEET; THENCE NORTH 73°-48'-13" WEST 241.50 FEET; THENCE SOUTH 18°-55'-29" WEST 551.85 FEET TO THE POINT OF BEGINNING.

ACCORDING TO MY SURVEY, THIS THE 17TH DAY OF JULY, 1990.

Mikell D. Speaks
ALABAMA REGISTRATION NO. 9127

NOTE: PROPERTY LOCATED IN SEC. 44, T4S, R1W MOBILE COUNTY, ALABAMA

REVISIONS:

MIKELL D. SPEAKS & ASSOCIATES · CONSULTING ENGINEERS, INCORPORATED
732 OAK CIRCLE DRIVE WEST · MOBILE ALABAMA

DRAWN BY: K.G.C. | DATE: JULY 17, 1990 | JOB NO. | SCALE

SURVEY PLAT OF WASTE MANAGEMENT AREA AT CROWN ZELLERBACH PROPERTY

SHEET 1. OF 1

ATTACHMENT J

POST-CLOSURE COST ESTIMATE & FINANCIAL ASSURANCE

POST CLOSURE COST ESTIMATE **September 23, 2024**

CAVENHAM FOREST INDUSTRIES, LLC - Mobile, AL

Cost of Post-Closure Care Included in ADEM Post-Closure Work Sheets (PC Series)

	LINE ITEM	CORRECTIVE ACTION			NON-CORRECTIVE ACTION			TOTAL
		COST/YR	YEARS	TOTAL	COST/YR	YEARS	TOTAL	
1.0	Removal of Leachate (PC-2)	$0.00	10	$0.00	$0.00	20	$0.00	$0
2.0	Site Security (PC-3)	$1,567.50	10	$15,675.00	$1,567.50	20	$31,350.00	$47,025
3.0	Maintenance of Vegetative Cover (PC-4)	$3,245.35	10	$32,453.46	$3,245.35	20	$64,906.92	$97,360
4.0	Maintenance and Inspection (PC-5)	$4,473.84	10	$44,738.38	$4,473.84	20	$89,476.76	$134,215
5.0	Groundwater Monitoring (PC-6 & SA-8)	$58,713.00	10	$587,130.00	$8,522.85	20	$170,457.10	$757,587
6.0	Deed Notation (PC-7)	$0.00	10	$0.00	$0.00	20	$0.00	$0
7.0	Maintenance and Inspection of Asphalt Cover (PC-8)	$0.00	10	$0.00	$0.00	20	$0.00	$0
8.0	Subtotal of Post-Closure Costs (Lines 1-7)							$1,036,188
9.0	Engineering Expenses (10% of Post Closure Cost)	$3,453.96	10	$34,539.59	$3,453.96	20	$69,079.17	$103,619
10.0	Certification of Completion of Post-Closure						$5,000.00	$5,000
11.0	Subtotal							$1,144,806
12.0	Contingency (20% of Subtotal)							$228,961
		Total Cost of Post Closure Care Included in ADEM Post-Closure Work Sheet PC-1						**$1,373,768**

Cost of Post-Closure Care not Included in ADEM Post-Closure Work Sheets (Non-PC Series)

	LINE ITEM	CORRECTIVE ACTION			NON-CORRECTIVE ACTION			TOTAL
		COST/YR	YEARS	TOTAL	COST/YR	YEARS	TOTAL	
13.0	Maintenance of Treatment System							
13.1	Site Labor - Half-time employee for operation of the recovery and injection systems and monitoring of the water treatment system during corrective action.	$38,948.83	10	$389,488.32	$0.00	20	$0.00	$389,488
13.2	Operating Expenses - costs other than site labor, including electricity, replacement parts, internal monitoring, and etc.	$28,712.28	10	$287,122.80	$0.00	20	$0.00	$287,124
13.3	Permit Monitoring - Cost of analyzing samples from NPDES outfalls and Injection wells (see attached sheet SA-6)	$7,144.00	10	$71,440.00	$0.00	20	$0.00	$71,440
13.4	Major Maintenance - 5% of 13.1 and 13.2. Subcontract costs for repairs cannot be effected by site labor.	$3,383.06	10	$33,830.56	$0.00	20	$0.00	$33,831
13.5	Report/Permitting - Semi-annual reports, renewal of permit applications, etc.	$4,000.00	10	$40,000.00	$0.00	20	$0.00	$40,000
13.6	Contingency 10% of 13.1 through 13.5	$8,218.82	10	$82,188.17	$0.00	20	$0.00	$82,188
		Total Cost for Operation of the Groundwater Corrective Action System						**$904,071**
		TOTAL COST FOR 30 YEAR POST-CLOSURE PERIOD						**$2,277,838**

Summary Worksheet - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

Summary Worksheet			
Activity		**Worksheet Number**	**Cost**
1	Removal of Leachate	PC-2	$0
2	Site Security	PC-3	$1,568
3	Maintenance of Negative Cover	PC-4	$97,360
4	Maintenance and Inspection	PC-5	$134,215
5	Groundwater Monitoring	PC-6	$757,587
6	Deed Notation	PC-7	$0
7	Maintenance and Inspection of Asphalt Cover	PC-8	$0
8	Subtotal of Post-Closure Costs (Add lines 1-7)		$990,730
9	Engineering Expenses (Engineering expenses are typically 10% of post-closure costs, excluding certification of post-closure.)		$99,073
10	Certification of Post-Closure	PC-9	$5,000
11	Subtotal (Add Lines 8, 9, & 10)		$1,094,803
12	Contingency Allowance (Contingency allowances are typically 20% of post-closure care costs, engineering expenses, and cost of certification of post-closure.)		$218,961
TOTAL COST OF POST-CLOSURE CARE (Add lines 11 and 12)			**$1,313,764**

Removal of Leachate - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

Removal of Leachate			
1	Volume of Leachate to be removed per event	0	gal
2	Number of Leachate removal events per year	0	events/year
3	Volume of Leachate to be removed per year (Multiply line 1 by line 2)	0	gal/year
4	Removal costs of Leachate per year (Multiply line 3 by $___per gallon)	$0.00	year
5	Number of years in the post-closure care period	30	years
Total Cost of Removal of Leachate (Multiply line 4 by line 5) (Enter total on Worksheet PC-1, Line 1)			**$0.00**

Site Security - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

1 Fencing			
1.A	Length of fencing	2000	ft
1.B	Labor, material, and equipment cost per	$0.50	$ per foot
1.C	**Cost of Fence site** (Multiply line 1.A by 1.B		**$1,000.00**
2 Corner Posts			
2.A	Number of corner posts required (if unknown, assume 4)	0.25	posts
2.B	Cost per corner post	$150.00	$ per post
2.C	**Cost to Erect Corner Posts** (Multiply line 2.A by line 2.B)		**$37.50**
3 Gates			
3.A	Number of gates required (Assume minimum of one unless otherwise specified	0.2	gate(s)
3.B	Labor, materials, and equipment costs per gate	$350	$ per gate
3.C	**Cost to install Gates** (Multiply line 3.A be 3.B)		**$70**
4 Reflector Signs			
4.A	Number of signs required (Assume a minimum of four, unless otherwise specified)	4	signs
4.B	Labor, materials, and equipment cost per sign	$115.00	per sign
4.C	**Total Cost to install Signs** (Multiply Line 4.A by line 4.B)		**$460**
TOAL COST OF SITE SECURITY (Add lines 1.C, 2.C, 3.C, and 4.C) (Enter total on worksheet PC-1, line 2)			**$1,568**

Notes: Fence is existing

Maintenance of Vegetative Cover - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

1 Mowing			
1.A	Area of cover to be mowed (Enter from worksheet LF-1, line 1.D	442,500	ft^2
1.B	Convert the area in ft^2 to MSF (thousand square feet) (Divide line 1.A by 1,000)	442.5	MSF
1.C	Labor and equipment cost per MSF	$1.70	MSF
1.D	Cost of one mowing event (Multiply line 1.B by line 1.C)	$750.34	$ per event
1.E	Number of mowing events per year	4	events/year
1.F	Number of years in the post-closure care period	30	years
1.G	Number of mowing events during the post-closure care period (Multiply line 1.E by line 1.F)	120	events
1.H	**Cost to Mow for Post-Closure Care Period** (Multiply line 1.D by line 1.G)		**$90,041**
2 Fertilizing			
2.A	Area of cover to be fertilized (Enter from line 1.B)	442.5	MSF
2.B	Labor, material, and equipment cost per MSF	$5.51	
2.C	Cost of one fertilizing event (Multiply line 2.A by line 2.B)	$2,440	per event
2.D	Number of fertilizing events per year	0.1	events/year
2.E	Number of years in the post-closure care period	30	years
2.F	Number of fertilizing events during the post-closure care period (Multiply line 2.D by line 2.E)	3	events
2.G	**Cost to Fertilize for the Post-Closure Care Period** (Multiply line 2.C by line 2.F)		**$7,319**
3 Watering			
3.A	Area of cover to be watered (Enter from line 1.B)	442.5	MSF
3.B	Labor and material cost per MSF	0.00	MSF
3.C	Cost of one watering event (Multiply line 3.A by line 3.B)	0.00	per event
3.D	Number of watering events per year	0	events/year
3.E	Number of years in the post-closure care period	30	years
3.F	Number of watering events during the post-closure care period (Multiply line 3.D by line 3.E)	0	events
3.G	**Cost to Water for the Post-Closure Care Period** (Multiply line 3.C by 3.F)		**$0.00**
TOTAL COST OF MAINTENANCE OF VEGETATIVE COVER (Add lines 1.H, 2.G, and 3.G) (Enter total on worksheet PC-1, line 3)			**$97,360**

Notes: Mobile receives in excess of 60" of rain per year. No watering required.
Cover is presently healthy and has not been fertilized since construction.

Maintenance and Inspection - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

If maintenance costs are not specifically indicated, the cost of maintaining and repairing the final cover can be estimated based on a percentage of the cost of constructing the final cover (such as 20 percent). If the unit is closed and construction costs for the final cover are not available, use landfill worksheet LF-3 through LF-6, found in Chapter 7 to estimate the cost

1 Maintenance And Repair of Final Cover				
1.A	Cost of installing clay layer (Enter from worksheet LF-2, line 1, or from owner or operator information)		$131,161.02	
1.B	Cost of installing geomembrane (Enter from worksheet LF-2, line 2, or from owner or operator information)		$183,412.17	
1.C	Cost of installing drainage layer (Enter from worksheet LF-2, line 3, or from owner or operator information)		$199,295.47	
1.D	Cost of installing topsoil (Enter from worksheet LF-2, line 4, or from owner or operator information)		$87,766.99	
1.E	Total cost of final cover (Add lines 1.A, 1.B, 1.C, and 1.D)		$601,635.66	
1.F	**Cost to Maintain and Repair Final Cover** (Multiply line 1.E by 0.20)			**$120,327.13**
2 Post-Closure Care Inspection				
2.A	Cost of conducting one inspection	$463	per inspection	
2.B	Number of inspections each year	1	inspection per year	
2.C	Cost of conducting post-closure care inspections per year (Multiply line 2.A by line 2.B)	$463	per year	
2.D	Number of years in post-closure period	30	years	
2.E	Cost to Conduct Post-Closure Care Inspections Over the Post-Closure Care Period (Multiply line 2.C by 2.D)	$13,888		
TOTAL COST OF MAINTENANCE AND INSPECTION (Add lines 1.F and 2.E) (Enter total on worksheet PC-1, line 4)				**$134,215**

Groundwater Monitoring - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

Groundwater Monitoring					
1	Number of years of groundwater monitoring during the post-closure care period	10 + 20	years		
2	Cost of groundwater monitoring per year	see notes	/year		
TOTAL COST OF GROUNDWATER MONITORING (Multiply line 1 by line 2) (Enter on PC-1 worksheet, line 5)					**$757,587.10**

Notes: The estimate assumes the number of groundwater samples collected each year during the remaining 10 year corrective action period is 62. Once corrective action is complete the number of samples will be reduced to 18 samples/year consisting of 8 Point of Compliance and 1 Upgradient Well analyzed twice each year for 20 years.

Annual cost during the corrective action period based on 62 wells (See SA-8) = $58,713.00

Total cost during corrective action period = $58,713.00 * 10 years = $587,130.00

Annual cost following corrective action period based on 9 wells

Annual Cost = $58,713 x (9/62) = $8,522.85

Total cost following corrective action period = $8,522.85 * 20 years = $170,457.10

Total cost of groundwater monitoring during post closure = $757,587.10

Deed Notation - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

Deed Notation			
1	Attorney Fees	$0.00	
2	Clerical and deed filing fees	$0.00	
Total Cost Of Deed Notation (Add lines 1 and 2)(Enter on worksheet PC-1, line 6)			$0.00

Notes: Deed notation has been completed

Maintenance and Inspection of Asphalt Cover - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

1 Maintenance of Asphalt Cover			
1.A	Area of asphalt cover (Enter from worksheet LF-1, line 1.D, or enter from owner or operator information)	0	yd^2
1.B	Cost of sealcoating asphalt cover per yd^2	$0	per yd^2
1.C	Cost of one sealcoating event (Multiply line 1.A by line 1.B)	$0	per event
1.D	Number of sealcoating events during the post-closure care period (if not provided, estimate sealcoating will be completed once every five years)	$0	per event
1.E	**Total Cost to Maintain Asphalt Cover** (Multiply line 1.C by line 1.D)		$0.00
2 Post-Closure Inspection			
2.A	Cost of conducting one inspection	$0	per inspection
2.B	Number of inspection per year	0	Inspections per year
2.C	Cost of conducting post-closure care inspections per year	$0	year
2.D	Number of years in post closure	30	years
2.E	**Cost to conduct Post-Closure Care Inspections Over the Post-Closure Period** (Multiply line 2.C by 2.D)		$0.00
Total Cost of Maintenance and Inspection (Add lines 1.F, and 2.E) (Enter total on worksheet PC-1, line 7)			$0

Notes: No asphalt cover is present at the site.

Certification of Completion of Post-Closure Care - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

Certification of Completion of Post-Closure Care		
1	Number of units requiring certification of completion of post-closure care	1
2	Cost of certification of completion of post-closure care per unit	$5,000.00
Total Cost Of Certification Of Post-Closure Care (Multiply line 1 by 2)(Enter total on worksheet PC-1, line 10)		**$5,000.00**

Sampling and Analysis Inventory - Page 1 of 2

Cavenham Forest Industries, LLC

Mobile, Alabama

1 Number of Boring And Subsurface Soil Samples		
(In the additional space below, identify the number of boring and subsurface soil samples being collected for each individual unit. Add the number of samples and record the total in the box provided)		
1	Number of Boring and Subsurface Soil Samples	0 Samples
2 Number of Concrete Core Samples		
(In the additional space below, identify the number of concrete core samples being collected for each individual unit. Add the number of samples and record the total in the box provided)		
2	Number of Core Samples	0 Samples
3 Number of Wipe Sample Locations		
(In the additional space below, identify the number of wipe sample locations for each individual unit. Add the number of samples and record the total in the box provided)		
3	Number of Wipe Sample Locations	0 Samples
4 Number of Aqueous Sample Locations		
(In the additional space below, identify the number of aqueous sample locations being collected for each individual unit. Add the number of samples and record the total in the box provided)		
4	Number of Aqueous Sample Locations: NPDES Permit - 52 (during corrective action) Injection Permit - 12 (during corrective action)	64 Samples

Sampling and Analysis Inventory - Page 2 of 2

Cavenham Forest Industries, LLC

Mobile, Alabama

5 Number of Nonaqueous Sample Locations		
(In the additional space below, identify the number of nonaqueous sample locations being collected for each individual unit. Add the number of samples and record the total in the box provided)		
5	Number of Nonaqueous Sample Locations	0 Samples
6 Number of Groundwater Sample Locations		
(In the additional space below, identify the number of groundwater sample locations for each individual unit. Add the number of samples and record the total in the box provided)		
6	Number of Groundwater Sample Locations Closed RCRA Landfill - 26 Semi-Annual (during corrective action) 10 Annual (during corrective action)	62 Samples
7 Number of Lysimeters to be Sampled		
In the additional space below, identify the number of lysimeters to be sampled. Record the number in the box provided.		
7	Number of Lysimeters to be Sampled	0 Samples
8 Number of Subsurface Soil Samples Collected During Monitoring Well Installation		
In the additional space below, identify the number of subsurface soil samples collected during monitoring well installation.		
8	Number of Subsurface Soil Samples Collected During Monitoring Well Installation	0 Samples

Summary Worksheet - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

Summary Worksheet			
	Activity	**Worksheet Number**	**Cost**
1	Boring and Subsurface Soil Sample	SA-3	$0.00
2	Concrete Core Sample	SA-4	$0.00
3	Wipe Sample	SA-5	$0.00
4	Aqueous Sample	SA-6	$7,144.00
5	Nonaqueous Sample	SA7	$0.00
6	Groundwater Sample	SA-8	$67,498.00
7	Soil-Pore Liquid Sample	SA-9	$0.00
8	Analysis of Subsurface Soil Sample (from monitoring Well Installation)	SA-10	$0.00
TOTAL SAMPLING AND ANALYSIS COST (Add lines 1 through 8)			$74,642.00

Boring and Subsurface Soil Sample - Page 1 of 1

Cavenham Forest Industries, LLC

Mobile, Alabama

Use this worksheet when you are estimating the cost to collect soil or rock samples at depth. This worksheet estimates cost by using a drill rig or other mechanical equipment to bore or core soil and rock using various drilling methods

1 Boring and Subsurface Soil Samples Costs - 2-1/2 Inch - Diameter Hole			
1.A	Number of borings to be drilled (Enter from worksheet SA-1, line 1)	0	borings
1.B	Enter total of bore depths (Add all depths. If the depth is not provided, use the average boring depth and multiply by line 1.A)	0	ft
1.C	Labor and equipment cost per hour	0	$ per hour
1.D	Work rate to drill 2-1/2 inch diameter hole	0	$
1.E	Number of hours required to drill 2-1/2 inch diameter hole (Multiply line 1.B by line 1.D) (One hour minimum round up to the 0.5 hour)		
1.F	Cost to drill 2-1/2 inch Borings (Multiply line 1.C by 1.E)	$0	
2 Boring And Subsurface Soil Sample Costs 4- Inch Diameter Hole			
2.A	Number of borings to be drilled (Enter from worksheet SA-1; line 1)	0	borings
2.B	Enter total bore depths (Add all depths. If the depth is not provided, use the average depth and multiply by line 2.A)	0	ft
2.C	Labor and equipment cost per hour	0	per hour
2.D	Work rate to drill 4-Inch diameter hole	0	per hour
2.E	Number of work hours required to drill 4-Inch diameter hole (Multiply line 2.B by line 2.D) (One hour minimum; round up to the 0.5 hour)	0	work hours
2.F	Cost to Drill 4-Inch Borings (Multiply line 2.C by line 2.E)		$
3 Analysis of Boring Sample			
3.A	Using the table in Attachment C to this worksheet, calculate the cost of analysis per		event
3.B	Enter the number of sampling events		event
3.C	Cost to analyze Soil Samples (Multiply line 3.A by line 3.B)	$	
Total Coat of sampling and analysis of boring and soil core		$	

Notes: No drilling and/or subsurface soil sampling is planned during post-closure

Concrete Core Sample Attachment - Page 1 of 1

Cost of Analysis per Sampling Event

Cavenham Forest Industries, LLC

Mobile, Alabama

Cost of Analysis per Sampling Event Reference for Line 2.A			
Column 1	**Column 2**	**Column 3**	**Column 4**
Analytical Parameter and Method Reference	**Cost of Analysis ($) per Parameter**	**Number of Analyses, including QC Analyses**	**Total Cost of Analysis ($) per Parameter per Event (Multiply Column 2 by Column 3)**
Total Cost For Analysis Of Coring Samples (Total of all costs in column 4)			

Wipe Sample Attachment - Page 1 of 1
Cost of Analysis per Sampling Event
Cavenham Forest Industries, LLC
Mobile, Alabama

Cost of Analysis per Sampling Event Reference for Line 2.A			
Column 1	**Column 2**	**Column 3**	**Column 4**
Analytical Parameter and Method Reference	**Cost of Analysis ($) per Parameter**	**Number of Analyses, including QC Analyses**	**Total Cost of Analysis ($) per Parameter per Event (Multiply Column 2 by Column 3)**
Total Cost For Analysis Of Wipe Samples (Total of all costs in column 4)			

Aqueous Sample - Page 1 of 2

Cavenham Forest Industries, LLC

Mobile, Alabama

Aqueous samples refer to liquids samples, including samples of rinsate and wastewater. Do not use this worksheet for estimating the cost of sampling other aqueous media, such as groundwater.

1 Collection of Aqueous Sample					
1.A	Number of sampling locations (Enter from worksheet SA-1; line 4)			64	sample locations
1.B	Sampling team and equipment cost per work hour				
	Choose appropriate level of PPE				
	a. Protection Level D	*$40.00*	*/work hour*		
	b. Protection Level C	*$*	*/work hour*		
	c. Protection Level B	*$*	*/work hour*		
1.C	Work hours required to collect samples from one sampling location			1	work hr/ sample location
1.D	Number of hours required to collect all samples (Multiply line 1.A by line 1.C)			64	work hrs
1.E	**Cost to Collect Aqueous Samples** (Multiply line 1.B by line 1.D)				**$2,560.00**
2 Analysis of Aqueous Sample					
2.A	Using the table in the attachment to this worksheet, calculate the cost of analysis per sampling event for aqueous samples (Enter cost from the Attachment to this worksheet)	$72 & $40	per event		
2.B	Enter the number of sampling events	57 & 12	events		
2.C	Cost to analyze Aqueous Samples (Multiply line 2.A by line 2.B)			$4,584.00	
Total Cost of Sampling and Analysis of Aqueous Samples (Add line 1.E to line 2.C) (Enter total on cost worksheet SA-2, line 4)					**$7,144.00**

Note: Total annual cost during presently ongoing corrective action.

Aqueous Sample - Page 2 of 2

Cost of Analysis per Sampling Event

Cavenham Forest Industries, LLC

Mobile, Alabama

Cost of Analysis per Sampling Event Reference for Line 2.A			
Column 1	**Column 2**	**Column 3**	**Column 4**
Analytical Parameter and Method Reference	**Cost of Analysis ($) per Parameter**	**Number of Analyses, including QC Analyses**	**Total Cost of Analysis ($) per Parameter per Event (Multiply Column 2 by Column 3)**
Phenol 420.1	$22.00	52	$1,144.00
COD 410.4	$25.00	52	$1,300.00
Ammonia SM 4500	$20.00	12	$240.00
Nitrate SM 4110B	$20.00	12	$240.00
Toxological	$415.00	4	$1,660.00
Total Cost For Analysis Of Aqueous Samples (Total of all costs in column 4)			$4,584.00

Notes:

Toxological samples collected with other NPDES samples.

Average cost per event (NPDES) = (($2679+$1660)/52)= $72.00

Average Cost per event (Injection)= ($480/12)= $40.00

Non-Aqueous Sample - Page 1 of 2

Cavenham Forest Industries, LLC

Mobile, Alabama

Nonaqueous samples refer to sludge, chip, or surface soil samples. These samples are shallow samples, that is, they are collected at depths of less than 1.5 feet below ground surface

1 Collection of Nonaqueous Sample					
1.A	Number of sampling locations (Enter from worksheet SA-1; line 5)				sample locations
1.B	Sampling team and equipment cost per work hour				$
	Choose appropriate level of PPE				
	a. Protection Level D	*$*	*work hour*		
	b. Protection Level C	*$*	*work hour*		
	c. Protection Level B	*$*	*work hour*		
1.C	Work hours required to collect samples from one sampling location				work hr/ sample location
1.D	Number of hours required to collect all samples (Multiply line 1.A by line 1.C)				work hrs
1.E	Cost to Collect Aqueous Samples (Multiply line 1.B by line 1.D)				$
2 Analysis of Nonaqueous Sample					
2.A	Using the table in the attachment to this worksheet, calculate the cost of analysis per sampling event for aqueous samples (Enter cost from the Attachment to this worksheet)				per event
2.B	Enter the number of sampling events				events
2.C	Cost to analyze Nonaqueous Samples (Multiply line 2.A by line 2.B)				$
Total cost of sampling and analysis of nonaqueous sample (add line 1.E to line 2.c) (Enter total on worksheet SA-2, line 5					

Nonaqueous Sample - Page 2 of 2
Cost of Analysis per Sampling Event
Cavenham Forest Industries, LLC
Mobile, Alabama

Cost of Analysis per Sampling Event Reference for Line 2.A			
Column 1	**Column 2**	**Column 3**	**Column 4**
Analytical Parameter and Method Reference	**Cost of Analysis ($) per Parameter**	**Number of Analyses, including QC Analyses**	**Total Cost of Analysis ($) per Parameter per Event (Multiply Column 2 by Column 3)**
Total Cost For Analysis Of Nonaqueous Samples (Total of all costs in column 4)			

Groundwater Sample - Page 1 of 2

Cavenham Forest Industries, LLC

Mobile, Alabama

Use this worksheet to estimate the cost of sampling and analysis of groundwater monitoring wells.

1 Collection of Groundwater Sample For Closure					
1.A	Number of sampling locations (Enter from worksheet SA-1; line 6)			0	sample locations
1.B	Sampling team and equipment cost per work hour				
	Choose appropriate level of PPE				
	a. Protection Level D	*$140.50*	*work hour*		
	b. Protection Level C	*$*	*work hour*		
	c. Protection Level B	*$*	*work hour*		
1.C	Work hours required to collect samples from one sampling location			1	work hr/ sample location
1.D	Number of hours required to collect all samples (Multiply line 1.A by line 1.C)			0	work hrs
1.E	**Cost to Collect Aqueous Samples** (Multiply line 1.B by line 1.D)				$0.00
2 Analysis of Groundwater Sample For Closure					
2.A	Using the table in the attachment to this worksheet, calculate the cost of analysis per sampling event for groundwater samples (Enter cost from the Attachment to this worksheet)			$0.00	per event
2.B	Enter the number of sampling events			0	events
2.C	Cost to analyze Nonaqueous Samples (Multiply line 2.A by line 2.B)				$0.00
Total Cost of Sampling and Analysis of Groundwater for Closure(Add line 1.E to line 2.C) (Enter total on cost worksheet SA-2, line 6)					$0.00
3 Collection of Groundwater Sample For Post Closure-Care					
3.A	Cost to sample groundwater wells for one sampling event (Enter from line 1.E)			$4,392.50	event
3.B	Enter the number of sampling events per year			2	events/year
3.C	Cost to collect Groundwater Samples Annually for Post-Closure Care (Multiply line 3.A by line 3.B)			$8,785.00	per year
4 Analysis of Groundwater Sample For Post-Closure Care					
4.A	Cost to analyze groundwater samples for one event (Enter from line 2.A)			$29,356.50	event
4.B	Enter the number of analysis events per year			2	events/year
4.C	Cost to Analyze Groundwater Samples Annually for Post-Closure Care (Multiply line 4.A by line 4.B)			$58,713.00	per year
Total Cost of Sampling and Analysis of Groundwater Annually for Post-Closure Care (Add line 3.C to line 4.C)(Enter total on line 2 of groundwater monitoring worksheet PC-6 or line 3.A of post-closure care land treatment unit worksheet LT-6.)					**$67,498.00**

Note: Total cost is for annual events during presently ongoing corrective action.
Closure activities have been completed.

Groundwater Sample - Page 2 of 2
Cost of Analysis per Sampling Event
Cavenham Forest Industries, LLC
Mobile, Alabama

Cost of Analysis per Sampling Event Reference for Line 2.A			
Column 1	**Column 2**	**Column 3**	**Column 4**
Analytical Parameter and Method Reference	**Cost of Analysis ($) per Parameter**	**Number of Analyses, including QC Analyses**	**Total Cost of Analysis ($) per Parameter per Event (Multiply Column 2 by Column 3)**
BNA 8270	$610.00	69	$42,090.00
BTEX 8260	$105.00	71	$7,455.00
Metals (5) 200.7	$63.00	30	$1,890.00
pH	$5.00	69	$345.00
Specific Conductance	$15.00	69	$1,035.00
Chloride	$25.00	69	$1,725.00
Ammonia	$20.00	69	$1,380.00
Nitrate/Nitrogen	$35.00	69	$2,415.00
Arsenic	$18.00	6	$108.00
Barium	$15.00	6	$90.00
Copper	$15.00	6	$90.00
Tin	$15.00	6	$90.00
Total Cost For Analysis of Groundwater Samples (Total of all costs in column 4) (per year)			$58,713.00

Average cost/event = $58,713.00 / 2 = $29,356.50

Soil-Pore Liquid Sample - Page 1 of 2

Cavenham Forest Industries, LLC

Mobile, Alabama

Use this worksheet to estimate the cost of sampling and analysis for land treatment facilities.

1 Collection of Soil-Pore Liquid Sample For Closure					
1.A	Number of sampling locations (Enter from worksheet SA-1; line 7)				lysimeters
1.B	Labor and equipment cost per work hour				$
	Choose approriate level of PPE				
	a. Protection Level D	*$*	*work hour*		
	b. Protection Level C	*$*	*work hour*		
	c. Protection Level B	*$*	*work hour*		
1.C	Work hours required to collect samples from one sampling location				work hr/lysimeters
1.D	Number of hours required to collect all samples (Mulitply line 1.A by line 1.C)				work hrs
1.E	Cost to Collect Aqueous Samples (Multiply line 1.B by line 1.D)				$
2 Anaylsis of Soil-Pore Liquid Sample For Closure					
2.A	Using the table in the attachment to this worksheet, calculate the cost of analysis per sampling event for soil-pore liquid samples (Ener cost from the Attachment)				per event
2.B	Enter the number of sampling events				events
2.C	Cost to Analyze Soil-Pore Liquid Samples for Closure (Mulitply line 2.A by line 2.B)				$
Total Cost of Sampling and Analysis of Aqueous Samples (Add line 1.E to line 2.C) (Enter total on cost worksheet SA-2, line 7)					
Total Cost Of Sampling And Analysis Of Soil-Pore Liquid For Post-Closure Care (Add line 1.E to line 2.A)(Enter total on line 1.A of post-closure care of land treatment worksheet LT-6)					

Soil-Pore Liquid Sample - Page 2 of 2
Cost of Analysis per Sampling Event
Cavenham Forest Industries, LLC
Mobile, Alabama

Cost of Analysis per Sampling Event Reference for Line 2.A			
Column 1	**Column 2**	**Column 3**	**Column 4**
Analytical Parameter and Method Reference	**Cost of Analysis ($) per Parameter**	**Number of Analyses, including QC Analyses**	**Total Cost of Analysis ($) per Parameter per Event (Multiply Column 2 by Column 3)**
Total Cost For Analysis of Groundwater Samples (Total of all costs in column 4)			

Analysis of Subsurface Soil Sample - Page 1 of 2

Cavenham Forest Industries, LLC

Mobile, Alabama

Use this worksheet to estimate the cost of analysis of samples collected during installation of a groundwater monitoring well.

Analysis Of Subsurface Soil Sample			
1	Using the table in the attachment to this worksheet, calculate the cost of analysis per sampling event for subsurface soil samples (Enter costs from the attachment to this woorksheet)		$ per event
2	Enter the amount of sampling events		events
Total Cost For Analysis of Subsurface Soil Samples (Multiply line 1 by line 2)(Enter total on worksheet SA-2, line B)			

Analysis of Subsurface Soil Sample - Page 2 of 2

Cost of Analysis per Sampling Event

Cavenham Forest Industries, LLC

Mobile, Alabama

Cost of Analysis per Sampling Event Reference for Line 1			
Column 1	**Column 2**	**Column 3**	**Column 4**
Analytical Parameter and Method Reference	**Cost of Analysis ($) per Parameter**	**Number of Analyses, including QC Analyses**	**Total Cost of Analysis ($) per Parameter per Event (Multiply Column 2 by Column 3)**
Total Cost For Analysis of Groundwater Samples (Total of all costs in column 4)			

ATTACHMENT K

FINANCIAL ASSURANCE

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

Sandra Parker

Marsh USA Inc.
500 Dallas Street
Suite 1500
Houston, TX 77002
+1 713 276 8585
sandra.r.parker@marsh.com
www.marsh.com

January 8, 2015

Ryan Hranica
Beazer East, Inc.
1910 Cochran Road
Manor Oak One, Suite 200
Pittsburgh, PA 15220

Subject: New Bond

Principal: Cavenham Forest Industries, LLC c/o Three Rivers Management, Inc.
Obligee: Alabama DEM
Bond Description: Performance Bond #929600926
Bond Amount: $1,767,497.00

Dear Ryan:

Enclosed please find the above-referenced bond in response to your request. The bond is based on the information we received with the request. Please have this bond signed/sealed and forwarded to the Obligee.

In the event you do not accept and file the bond with the Obligee, please return this original document to Marsh so we can notify the surety company that the bond was not accepted and filed; otherwise, the surety company will process a premium billing for the bond.

Marsh & McLennan Companies, Inc. and its subsidiaries own equity interests in certain insurers and have contractual arrangements with certain insurers and wholesale brokers. Information is available at: http://global.marsh.com/about/Transparency.php

Should you have any questions, please do not hesitate to call.

Sincerely,

Sandra Parker
Sr. Vice President

/sp
Enclosure

PERFORMANCE BOND

Date bond executed:	January 8, 2015
Effective date:	December 15, 2014
Principal:	Cavenham Forest Industries, LLC c/o Three Rivers Management, Inc. 1910 Cochran Road Montgomery, AL 36110
Type of organization:	Limited Liability Company
State of incorporation:	Delaware
Surety(ies):	Western Surety Company 333 South Wabash Avenue, Floor 22 Chicago, IL 60604

EPA Identification Number, name, address and closure, post-closure, and/or corrective action amounts(s) for each facility guaranteed by this bond:

Cavenham Forest Industries, LLC
South End of Herbert Street
Mobile, AL 36652

EPA ID No.: ALD 057226904

Closure Amount:	$0
Post-Closure Amount:	$511,594.00
Corrective Action Amount:	$1,255,903.00
Total penal sum of bond: $	$1,767,497.00
Surety's bond number:	929600926

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the Alabama Department of Environmental Management (the "Department"), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joining action or actions against any or all of us, and for all other purposes each Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Alabama Hazardous Wastes Management and Minimization Act of 1978 (AHWMMA), as amended, to have a permit in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform corrective action at each facility for which this bond guarantees corrective action, in accordance with the corrective action plan and other requirements of the permit or correction action order, as such plan, permit, and/or order may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance as specified in ADEM Administrative Code rule 335-14-5-.08, and obtain the Department's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Department from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Department that the Principal has been found in violation of the closure requirements of ADEM Administrative Code 335-14-5, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has been found in violation of the post-closure requirements of ADEM Administrative Code 335-14-5, for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has failed to provide alternate financial assurance as specified in ADEM Administrative Code rule 335-14-5-.08, and obtain written approval of such assurance from the Department during the 90 days following receipt by both the Principal and the Department of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Department.
Upon notification by the Department that the Principal has been found in violation of the corrective action requirements of ADEM Administrative Code 335-14-5, for a facility for which this bond

guarantees performance of corrective action, the Surety(ies) shall either perform corrective action in accordance with the corrective action plan and other permit or corrective action order requirements or place the corrective action amount guaranteed for the facility into the standby trust fund as directed by the Department.

The surety(ies) hereby waive(s) notification of amendments to closure, post-closure, and/or corrective action plans, permits, orders, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Department, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond from the Department.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure, post-closure, and/or corrective action amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Department.

In Witness Whereof, the Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in ADEM Administrative Code subparagraph 335-14-5-.08(12)(c) as such rule was constituted on the date this bond was executed.

Principal

Cavenham Forest Industries, LLC c/o Three Rivers Management, Inc.

By: _____

Name: Robert Markwell

Title: President

[Corporate seal]

Corporate Surety(ies)

Western Surety Company
333 South Wabash Avenue, Floor 22, Chicago, IL 60604

State of incorporation: South Dakota
Liability limit: $1,767,497.00

By: _____

Name: Sandra Parker

Title: Attorney-in-fact

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $11,135.00

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Sandra Parker, Terri Morrison, Tannis Mattson, Melissa Haddick, Joe Martinez, Gina Rodriguez, Mary Pena, Elizabeth Rhodes, Individually

of Houston, TX, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 17th day of October, 2012.

WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota
County of Minnehaha } ss

On this 17th day of October, 2012, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires
June 23, 2015

J. MOHR
NOTARY PUBLIC
SOUTH DAKOTA

J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 8th day of January, 2015.

WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Form F4280-7-2012

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

ATTACHMENT L

GROUNDWATER MONITORING DATA SUMMARY

Groundwater Monitoring Data Summary and Statistical Analysis
Cavenham Forest Industries, Inc.
Mobile, Alabama

1.0 Introduction

This section presents a tabulation of all groundwater monitoring data collected at the Cavenham Forest Industries, Inc. (CFI) Mobile, Alabama site during the time period January 1, 2013 to the June 30, 2023 (most recent semi-annual sampling). Additionally, a statistical analysis was performed on the analytical results for metals and organic compounds. The statistical analysis focused on the last three years of results which included all groundwater analytical results obtained during the time period from January 1, 2020 to June 30, 2023 (most recent data). The last three years of data was chosen for analysis since it should be the most representative of current conditions at the site and should reduce any bias associated with older laboratory instrumentation or changes in analytical methodology that may have occurred during the larger time period. The goal of the analysis is to:

1) Determine what constituents are the best indicators of groundwater contamination at this facility; and

2) Use the information developed to focus groundwater monitoring efforts on valid constituents of concern.

2.0 Rationale

In accordance with the Post Closure Permit, during the past 10 years the facility has been analyzing the Permit ALD 057 226 904 Table III.3 list of parameters semiannually to monitor releases to the groundwater at this site. The data has produced a comprehensive database from which to characterize the nature of the groundwater contaminants.

The rationale is straight forward and is based on the following premises:

1) The waste previously managed at this site has been studied thoroughly and is well characterized. New organic or inorganic constituents are not expected to appear in the groundwater in the future.

2) Constituents that are routinely detected at the facility should be the prime candidates for inclusion in the groundwater monitoring program. Further evaluation of this list may occur based on health risk (Item 5).

3) Constituents that are rarely detected should be analyzed less frequently than parameters that are routinely detected.

4) Constituents that are never detected should be eliminated from the groundwater monitoring program.

5) Constituents that are routinely detected may be further evaluated based on health-based toxicity data to determine if less frequent monitoring is justified. For example, if a parameter is routinely detected, but the concentration never exceeds health-based criteria, the frequency of analysis may be reduced.

3.0 Statistical Analysis

Data for all metals and organic compounds were compiled into a spreadsheet for the time period January 2020 through June 2023. This data was examined to determine the number of analyses performed for each constituent during the time period. Results for duplicate analyses were removed. There were typically 231 samples collected for each organic compound and 140 samples for each metal constituent. Minimum and maximum values were defined for each parameter and frequency distributions were performed to determine the number of data points that are:

1) Less than the reporting limit and not flagged as detected between the detection limit and reporting limit, i.e., not detected during the analysis;

2) Less than the reporting limit and above the detection limit, i.e., "J" flagged as an estimated concentration;

3) Greater than or equal to the reporting limit, i.e., detected; and

4) Greater than the Groundwater Protection Standard (GWPS), which may consist of the Maximum Contaminant Levels (MCL) or EPA Regional Screening Level 10-6 Risk or Hazard Quotient 0.1.

The results of these analyses are presented in the following section.

3.0 Results and Conclusions

Table L-1 presents a summary of the statistical analysis for the organic constituents. With the exception of a few parameters, the analysis was based on 174 analyses. The table shows the detection frequency based on the reporting limit, the minimum value which is typically the lower detection limit, the maximum value detected, and the detection frequency for results that are equal to or greater than the MCL or GWPS. Comments are provided by each constituent to indicate the well or wells where it is most commonly detected. Constituents that are proposed for routine groundwater analysis are shown as highlighted values.

Table L-2 provides similar information for inorganic constituents. These constituents are presently analyzed annually resulting in a smaller database (150 analyses for each constituent). Constituents that are proposed for routine groundwater analysis are shown as highlighted values.

Table L-3 is a summary of the analytes proposed for routine groundwater monitoring. All Appendix IX constituents will be analyses on a less frequent basis. Frequency of analysis is discussed in the Groundwater Monitoring Plan.

Table L-4 provides a comparison of the March-April 2023 analytical results to the GWPS.

Table L-5 is a summary of the organic statistical results for each well.

Table L-1
Summary of Organic Analytical Results - January 1, 2020 - June 30, 2023
Cavenham Forest Industries, LLC
Mobile, Alabama

Constituent	Detection Frequency			Minimum	Maximum	Groundwater Protection Standard (GWPS)	Frequency above GWPS		Wells Exhibiting Constituents > GWPS
	Detected	Num Analyses	% Detected	(mg/L)			Num > GWPS	% above GWPS	
PHENOLIC COMPOUNDS									
2,4,6-Trichlorophenol	0	174	0%	ND	ND	0.0012	0	0.0%	--
2,4-Dimethylphenol	31	174	18%	0.00036	6.66	0.036	10	5.7%	RC-1, RW-3A, RW-5, RW-37
2,4-Dinitrophenol	10	174	6%	0.00523	0.0969	0.0039	10	5.7%	RC-1, RC-1A, RC-2, RC-2A, RC-3, RC-3A, RW-8A, T-1, T-2
2-Methylphenol	19	174	11%	0.00069	1.52	0.093	4	2.3%	RC-3, RW-37
3 & 4-Methylphenol	21	174	12%	0.00288	2.31	0.037	8	4.6%	RC-1, RC-3, RW-37
4-Chloro-3-Methylphenol	13	174	7%	0.00035	0.0268	0.14	0	0.0%	--
Pentachlorophenol	10	174	6%	0.00414	0.6	0.001	10	5.7%	GCSUMP, RC-1, RC-1A, RC-2, RC-2A, RC-3, RC-3A, RW-6, T-1, T-2
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)									
Acenaphthene	119	174	68%	0.00002	346	0.053	70	40.2%	E-1, GCSUMP, RC-1, RC-1A, RC-2, RC-2A, RC-3, RC-3A, RW-2, RW-3A, RW-3B, RW-4, RW-5, RW-6, RW-11, RW-12, RW-35, RW-37, T-1, T-2
Acenaphthylene	40	174	23%	0.00001	3.27	-	--	--	--
Anthracene	80	174	46%	0.00002	40.7	0.18	12	6.9%	RC-3, RW-3A, RW-6, RW-37, T-1
Benzo (a) anthracene	60	174	34%	0.00002	44.3	0.00003	56	32%	E-1, E-2, GCSUMP, RC-1, RC-2, RC-3, RW-1, RW-2, RW-3A, RW-3B, RW-5, RW-6, RW-11, RW-37, T-1, T-2
Benzo (a) pyrene	73	174	42%	0.00002	8.24	0.0002	63	36%	B-24, B-25, B-36, B-101, B-108A, B-128, E-1, E-2, GCSUMP, RC-1, RC-2, RC-3, RW-1, RW-2, RW-3A, RW-3B, RW-6, RW-11, RW-13, RW-37, T-1, T-2, UG-2
Benzo (b) fluoranthene	66	174	38%	0.00003	13	0.00025	59	34%	B-24, B-25, B-36, B-101, B-108A, B-128, E-1, E-2, GCSUMP, RC-1, RC-2, RC-3, RW-1, RW-2, RW-3A, RW-3B, RW-6, RW-11, RW-13, RW-37, T-1, T-2, UG-2
Benzo (k) fluoranthene	57	174	33%	0.00006	4.12	0.0025	37	21%	E-1, GCSUMP, RC-1, RC-2, RC-3, RW-2, RW-3A, RW-3B, RW-6, RW-11, RW-13, RW-37, T-1, T-2
Carbazole	69	174	40%	0.00148	43.7	--	--	--	--
Chrysene	66	174	38%	0.00003	38	0.025	31	18%	E-1, GCSUMP, RC-1, RC-3, RW-2, RW-3A, RW-3B, RW-6, RW-11, RW-37, T-1, T-2
Dibenz (a,h) anthracene	28	174	16%	0.00007	0.311	0.000025	28	16%	B-24, E-1, GCSUMP, RC-1, RC-2, RC-3, RW-1, RW-2, RW-3A, RW-3B, RW-6, T-1, T-2
Fluoranthene	107	174	61%	0.00003	254	0.08	34	19.5%	E-1, RC-1, RC-3, RW-2, RW-3A, RW-3B, RW-6, RW-37, T-1, T-2
Fluorene	108	174	62%	0.00002	278	0.029	64	36.8%	E-1, GCSUMP, RC-1, RC-1A, RC-2, RC-2A, RC-3, RW-3A, RW-2, RW-4, RW-5, RW-6, RW-35, RW-37, T-1, T-2
Indeno (1,2,3-cd) pyrene	44	174	25%	0.00012	2.1	0.00025	37	21%	B-24, B-25, B-101, E-1, E-2, GCSUMP, RC-1, RC-2, RC-3, RW-1, RW-2, RW-3A, RW-3B, RW-6, RW-13, T-1, T-2, UG-2
2-Methylnaphthalene	76	174	44%	0.00005	431	0.0036	53	30.5%	E-1, RC-1, RC-1A, RC-2A, RC-3, RC-3A, RW-2, RW-3A, RW-3B, RW-4, RW-5, RW-6, RW-37, T-1, T-2
Naphthalene	98	174	56%	0.00004	440	0.00012	73	42%	B-97, E-1, GCSUMP, RC-1, RC-1A, RC-2, RC-2A, RC-3, RC-3A, RW-1, RW-2, RW-3A, RW-3B, RW-4, RW-5, RW-6, RW-8A, RW-37, T-1, T-2
Phenanthrene	112	174	64%	0.00005	506	--	--	--	--
Pyrene	97	174	56%	0.00002	161	0.012	55	31.6%	E-1, GCSUMP, RC-1, RC-3, RW-2, RW-3A, RW-3B, RW-6, RW-37, T-1, T-2
REMAINING ORGANIC CONSTITUENTS									
Benzene	31	174	18%	0.00576	0.0782	0.005	31	18%	E-1, RC-1, RC-1A, RC-3, RW-3A, RW-3B, RW-6, RW-37, T-2
Ethylbenzene	47	174	27%	0.00514	2.91	0.7	1	0.6%	RW-6
Bis(2-ethylhexyl)phthalate	22	174	13%	0.00051	0.0588	0.006	6	3.4%	RC-1, RC-2A, RC-3A, RW-3A, E-1, T-2
Dibenzofuran	73	174	42%	0.00053	255	0.00079	72	41.4%	E-1, GCSUMP, RC-1, RC-1A, RC-2A, RC-3, RC-3A, RW-2, RW-3A, RW-3B, RW-4, RW-5, RW-6, RW-8A, RW-11, RW-37, T-1, T-2
Di-n-octyl phthalate	4	174	2%	0.00046	0.0269	0.02	1	0.6%	T-1

Table L-2
Summary of Inorganic Analytical Results - January 1, 2030 thru June 30, 2023
Cavenham Forest Industries, LLC
Mobile, Alabama

Constituent	Detection Frequency			Minimum	Maximum	Groundwater Protection Standard (GWPS)	Frequency above GWPS		Wells Exhibiting Constituents > GWPS
	Detected	Num Analyses	% Detected	(mg/L)			Num > GWPS	% above GWPS	
Arsenic	31	150	21%	0.00201	0.0292	0.01	4	2.7%	B-97, E-1, RW-1
Chromium	43	150	29%	0.00102	1.29	0.1	1	0.7%	B60A
Lead	38	150	25%	0.00105	0.0638	0.015	4	2.7%	RW-1, RW-3B, RW-5, RW-8A
Nickel	3	150	2%	0.134	0.421	0.039	3	2.0%	B60A
Chloride	171	174	98%	0.711	2230	250	30	17.2%	B-25, B-97, B-108A, B-128, E-1, GCSUMP, RC-1, RC-3

Table L-3
Proposed Groundwater Monitoring Parameters
Cavenham Forest Industries LLC
Mobile, Alabama

CONSTITUENT	
PHENOLIC COMPOUNDS	
2,4-Dinitrophenol	**PROPOSE TO REMOVE**
2,4-Dimethylphenol	2,4,6-Trichlorophenol - No Detections
2-Methylphenol	4-Chloro-3-Methylphenol - No Detections above GWPS
3 & 4-Methylphenol	
Pentachlorophenol	
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)	
2-Methylnaphthalene	
Acenaphthene	**PROPOSE TO REMOVE**
Anthracene	Acenaphthylene - No EPA Screening Level
Benzo(a)anthracene	Carbazole - No EPA Screening Level
Benzo(a)pyrene	Phenanthrene - No EPA Screening Level
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Chrysene	
Fluoranthene	
Fluorene	
Indeno(1,2,3-c,d)pyrene	
Naphthalene	
Pyrene	
REMAINING ORGANIC CONSTITUENTS	
Benzene	**PROPOSE TO REMOVE**
Bis(2-ethylhexyl)phthalate	Ethylbenzene - One Detection above GWPS in One Well
Dibenzofuran	Di-n-octyl phthalate - One Detection above GWPS in One Well
METALS/INORGANICS	**PROPOSE TO REMOVE**
Arsenic	Chromium - One Outlier Detection above GWPS in One Well
Lead	
Nickel	
Chloride	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
B101	3/21/2023	Arsenic	<0.002	0.01	
B101	3/21/2023	Chromium	<0.001	0.1	
B101	3/21/2023	Lead	<0.001	0.015	
B101	3/21/2023	Nickel	<0.04	0.039	
B101	3/21/2023	1-Methylnaphthalene	<0.0013	0.0011	
B101	3/21/2023	2-Methylnaphthalene	0.00007	0.0036	
B101	3/21/2023	Acenaphthene	0.00008	0.053	
B101	3/21/2023	Acenaphthylene	<0.00006		
B101	3/21/2023	Anthracene	0.00009	0.18	
B101	3/21/2023	Benzo (a) anthracene	0.00007	0.00003	1
B101	3/21/2023	Benzo (a) pyrene	0.0004	0.0002	1
B101	3/21/2023	Benzo (b) fluoranthene	0.00051	0.00025	1
B101	3/21/2023	Benzo (k) fluoranthene	0.00038	0.0025	
B101	3/21/2023	Carbazole	<0.00798		
B101	3/21/2023	Chrysene	0.00005	0.025	
B101	3/21/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
B101	3/21/2023	Dibenzofuran	<0.00122	0.00079	
B101	3/21/2023	Fluoranthene	0.00152	0.08	
B101	3/21/2023	Fluorene	0.00023	0.029	
B101	3/21/2023	Indeno (1,2,3-cd) pyrene	0.00026	0.00025	1
B101	3/21/2023	Naphthalene	0.00021	0.00062	
B101	3/21/2023	Phenanthrene	0.00029		
B101	3/21/2023	Pyrene	0.00421	0.012	
B101	3/21/2023	2,4,6-Trichlorophenol	<0.00134	0.0012	
B101	3/21/2023	2,4-Dimethylphenol	<0.00107	0.036	
B101	3/21/2023	2,4-Dinitrophenol	<0.00439	0.0039	
B101	3/21/2023	2-Methylphenol	<0.00126	0.093	
B101	3/21/2023	3 & 4-Methylphenol	<0.00344	0.037	
B101	3/21/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
B101	3/21/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
B101	3/21/2023	Di-n-octyl phthalate	<0.00173	0.02	
B101	3/21/2023	Pentachlorophenol	<0.00102	0.001	
B101	3/21/2023	Benzene	<0.005	0.005	
B101	3/21/2023	Ethylbenzene	<0.005	0.7	
B108A	3/21/2023	Arsenic	<0.002	0.01	
B108A	3/21/2023	Chromium	<0.001	0.1	
B108A	3/21/2023	Lead	<0.001	0.015	
B108A	3/21/2023	Nickel	<0.04	0.039	
B108A	3/21/2023	1-Methylnaphthalene	<0.00131	0.0011	
B108A	3/21/2023	2-Methylnaphthalene	<0.00005	0.0036	
B108A	3/21/2023	Acenaphthene	<0.00005	0.053	
B108A	3/21/2023	Acenaphthylene	<0.00006		
B108A	3/21/2023	Anthracene	<0.00006	0.18	
B108A	3/21/2023	Benzo (a) anthracene	<0.00006	0.00003	
B108A	3/21/2023	Benzo (a) pyrene	0.00029	0.0002	1
B108A	3/21/2023	Benzo (b) fluoranthene	0.00036	0.00025	1
B108A	3/21/2023	Benzo (k) fluoranthene	0.0001	0.0025	
B108A	3/21/2023	Carbazole	<0.00802		

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
B108A	3/21/2023	Chrysene	<0.00005	0.025	
B108A	3/21/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
B108A	3/21/2023	Dibenzofuran	<0.00122	0.00079	
B108A	3/21/2023	Fluoranthene	0.00008	0.08	
B108A	3/21/2023	Fluorene	<0.00012	0.029	
B108A	3/21/2023	Indeno (1,2,3-cd) pyrene	0.00025	0.00025	
B108A	3/21/2023	Naphthalene	<0.00015	0.00062	
B108A	3/21/2023	Phenanthrene	0.00022		
B108A	3/21/2023	Pyrene	<0.00005	0.012	
B108A	3/21/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
B108A	3/21/2023	2,4-Dimethylphenol	<0.00107	0.036	
B108A	3/21/2023	2,4-Dinitrophenol	<0.00441	0.0039	
B108A	3/21/2023	2-Methylphenol	<0.00127	0.093	
B108A	3/21/2023	3 & 4-Methylphenol	<0.00346	0.037	
B108A	3/21/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
B108A	3/21/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
B108A	3/21/2023	Di-n-octyl phthalate	<0.00173	0.02	
B108A	3/21/2023	Pentachlorophenol	<0.00102	0.001	
B108A	3/21/2023	Benzene	<0.005	0.005	
B108A	3/21/2023	Ethylbenzene	<0.005	0.7	
B128	3/21/2023	Arsenic	<0.002	0.01	
B128	3/21/2023	Chromium	<0.001	0.1	
B128	3/21/2023	Lead	<0.001	0.015	
B128	3/21/2023	Nickel	<0.04	0.039	
B128	3/21/2023	1-Methylnaphthalene	<0.00131	0.0011	
B128	3/21/2023	2-Methylnaphthalene	0.00011	0.0036	
B128	3/21/2023	Acenaphthene	0.00009	0.053	
B128	3/21/2023	Acenaphthylene	<0.00006		
B128	3/21/2023	Anthracene	0.00007	0.18	
B128	3/21/2023	Benzo (a) anthracene	0.00006	0.00003	1
B128	3/21/2023	Benzo (a) pyrene	0.00035	0.0002	1
B128	3/21/2023	Benzo (b) fluoranthene	0.00044	0.00025	1
B128	3/21/2023	Benzo (k) fluoranthene	0.00012	0.0025	
B128	3/21/2023	Carbazole	<0.00802		
B128	3/21/2023	Chrysene	0.00005	0.025	
B128	3/21/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
B128	3/21/2023	Dibenzofuran	<0.00122	0.00079	
B128	3/21/2023	Fluoranthene	0.00017	0.08	
B128	3/21/2023	Fluorene	<0.00012	0.029	
B128	3/21/2023	Indeno (1,2,3-cd) pyrene	0.00024	0.00025	
B128	3/21/2023	Naphthalene	0.00015	0.00062	
B128	3/21/2023	Phenanthrene	0.00206		
B128	3/21/2023	Pyrene	0.0001	0.012	
B128	3/21/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
B128	3/21/2023	2,4-Dimethylphenol	<0.00107	0.036	
B128	3/21/2023	2,4-Dinitrophenol	<0.00441	0.0039	
B128	3/21/2023	2-Methylphenol	<0.00127	0.093	
B128	3/21/2023	3 & 4-Methylphenol	<0.00346	0.037	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
B128	3/21/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
B128	3/21/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
B128	3/21/2023	Di-n-octyl phthalate	<0.00173	0.02	
B128	3/21/2023	Pentachlorophenol	<0.00102	0.001	
B128	3/21/2023	Benzene	<0.005	0.005	
B128	3/21/2023	Ethylbenzene	<0.005	0.7	
B24	3/20/2023	Arsenic	<0.002	0.01	
B24	3/20/2023	Chromium	<0.001	0.1	
B24	3/20/2023	Lead	<0.001	0.015	
B24	3/20/2023	Nickel	<0.04	0.039	
B24	3/20/2023	1-Methylnaphthalene	<0.00131	0.0011	
B24	3/20/2023	2-Methylnaphthalene	<0.00005	0.0036	
B24	3/20/2023	Acenaphthene	<0.00005	0.053	
B24	3/20/2023	Acenaphthylene	<0.00006		
B24	3/20/2023	Anthracene	<0.00006	0.18	
B24	3/20/2023	Benzo (a) anthracene	0.00007	0.00003	1
B24	3/20/2023	Benzo (a) pyrene	0.00046	0.0002	1
B24	3/20/2023	Benzo (b) fluoranthene	0.00067	0.00025	1
B24	3/20/2023	Benzo (k) fluoranthene	0.00021	0.0025	
B24	3/20/2023	Carbazole	<0.00806		
B24	3/20/2023	Chrysene	0.00005	0.025	
B24	3/20/2023	Dibenz (a,h) anthracene	0.00016	0.000025	1
B24	3/20/2023	Dibenzofuran	<0.00123	0.00079	
B24	3/20/2023	Fluoranthene	0.00006	0.08	
B24	3/20/2023	Fluorene	<0.00012	0.029	
B24	3/20/2023	Indeno (1,2,3-cd) pyrene	0.00041	0.00025	1
B24	3/20/2023	Naphthalene	<0.00015	0.00062	
B24	3/20/2023	Phenanthrene	0.00009		
B24	3/20/2023	Pyrene	<0.00005	0.012	
B24	3/20/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
B24	3/20/2023	2,4-Dimethylphenol	<0.00108	0.036	
B24	3/20/2023	2,4-Dinitrophenol	<0.00443	0.0039	
B24	3/20/2023	2-Methylphenol	<0.00127	0.093	
B24	3/20/2023	3 & 4-Methylphenol	<0.00348	0.037	
B24	3/20/2023	4-Chloro-3-Methylphenol	<0.00169	0.14	
B24	3/20/2023	Bis(2-ethylhexyl)phthalate	<0.00111	0.006	
B24	3/20/2023	Di-n-octyl phthalate	<0.00174	0.02	
B24	3/20/2023	Pentachlorophenol	<0.00103	0.001	
B24	3/20/2023	Benzene	<0.005	0.005	
B24	3/20/2023	Ethylbenzene	<0.005	0.7	
B25	3/20/2023	Arsenic	<0.002	0.01	
B25	3/20/2023	Chromium	<0.001	0.1	
B25	3/20/2023	Lead	<0.001	0.015	
B25	3/20/2023	Nickel	<0.04	0.039	
B25	3/20/2023	1-Methylnaphthalene	<0.00129	0.0011	
B25	3/20/2023	2-Methylnaphthalene	<0.00005	0.0036	
B25	3/20/2023	Acenaphthene	<0.00005	0.053	
B25	3/20/2023	Acenaphthylene	<0.00006		

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
B25	3/20/2023	Anthracene	<0.00006	0.18	
B25	3/20/2023	Benzo (a) anthracene	0.00007	0.00003	1
B25	3/20/2023	Benzo (a) pyrene	0.00039	0.0002	1
B25	3/20/2023	Benzo (b) fluoranthene	0.00053	0.00025	1
B25	3/20/2023	Benzo (k) fluoranthene	0.00014	0.0025	
B25	3/20/2023	Carbazole	<0.00794		
B25	3/20/2023	Chrysene	0.00005	0.025	
B25	3/20/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
B25	3/20/2023	Dibenzofuran	<0.00121	0.00079	
B25	3/20/2023	Fluoranthene	0.00035	0.08	
B25	3/20/2023	Fluorene	<0.00012	0.029	
B25	3/20/2023	Indeno (1,2,3-cd) pyrene	0.00029	0.00025	1
B25	3/20/2023	Naphthalene	<0.00015	0.00062	
B25	3/20/2023	Phenanthrene	0.00009		
B25	3/20/2023	Pyrene	0.0008	0.012	
B25	3/20/2023	2,4,6-Trichlorophenol	<0.00133	0.0012	
B25	3/20/2023	2,4-Dimethylphenol	<0.00106	0.036	
B25	3/20/2023	2,4-Dinitrophenol	<0.00436	0.0039	
B25	3/20/2023	2-Methylphenol	<0.00125	0.093	
B25	3/20/2023	3 & 4-Methylphenol	<0.00342	0.037	
B25	3/20/2023	4-Chloro-3-Methylphenol	<0.00167	0.14	
B25	3/20/2023	Bis(2-ethylhexyl)phthalate	<0.00109	0.006	
B25	3/20/2023	Di-n-octyl phthalate	<0.00172	0.02	
B25	3/20/2023	Pentachlorophenol	<0.00101	0.001	
B25	3/20/2023	Benzene	<0.005	0.005	
B25	3/20/2023	Ethylbenzene	<0.005	0.7	
B36	3/22/2023	Arsenic	<0.002	0.01	
B36	3/22/2023	Chromium	<0.001	0.1	
B36	3/22/2023	Lead	<0.001	0.015	
B36	3/22/2023	Nickel	<0.04	0.039	
B36	3/22/2023	1-Methylnaphthalene	<0.00134	0.0011	
B36	3/22/2023	2-Methylnaphthalene	0.00007	0.0036	
B36	3/22/2023	Acenaphthene	0.00012	0.053	
B36	3/22/2023	Acenaphthylene	<0.00006		
B36	3/22/2023	Anthracene	<0.00006	0.18	
B36	3/22/2023	Benzo (a) anthracene	<0.00006	0.00003	
B36	3/22/2023	Benzo (a) pyrene	0.00025	0.0002	1
B36	3/22/2023	Benzo (b) fluoranthene	0.00026	0.00025	1
B36	3/22/2023	Benzo (k) fluoranthene	0.00008	0.0025	
B36	3/22/2023	Carbazole	<0.00823		
B36	3/22/2023	Chrysene	<0.00005	0.025	
B36	3/22/2023	Dibenz (a,h) anthracene	<0.00017	0.000025	
B36	3/22/2023	Dibenzofuran	<0.00126	0.00079	
B36	3/22/2023	Fluoranthene	0.00007	0.08	
B36	3/22/2023	Fluorene	<0.00013	0.029	
B36	3/22/2023	Indeno (1,2,3-cd) pyrene	0.00023	0.00025	
B36	3/22/2023	Naphthalene	0.00023	0.00062	
B36	3/22/2023	Phenanthrene	0.00012		

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
B36	3/22/2023	Pyrene	<0.00005	0.012	
B36	3/22/2023	2,4,6-Trichlorophenol	<0.00138	0.0012	
B36	3/22/2023	2,4-Dimethylphenol	<0.0011	0.036	
B36	3/22/2023	2,4-Dinitrophenol	<0.00452	0.0039	
B36	3/22/2023	2-Methylphenol	<0.0013	0.093	
B36	3/22/2023	3 & 4-Methylphenol	<0.00355	0.037	
B36	3/22/2023	4-Chloro-3-Methylphenol	<0.00173	0.14	
B36	3/22/2023	Bis(2-ethylhexyl)phthalate	<0.00113	0.006	
B36	3/22/2023	Di-n-octyl phthalate	<0.00178	0.02	
B36	3/22/2023	Pentachlorophenol	<0.00105	0.001	
B36	3/22/2023	Benzene	<0.005	0.005	
B36	3/22/2023	Ethylbenzene	<0.005	0.7	
B60A	3/27/2023	Arsenic	<0.002	0.01	
B60A	3/27/2023	Chromium	0.00163	0.1	
B60A	3/27/2023	Lead	<0.001	0.015	
B60A	3/27/2023	Nickel	<0.04	0.039	
B60A	3/27/2023	1-Methylnaphthalene	<0.0013	0.0011	
B60A	3/27/2023	2-Methylnaphthalene	0.0001	0.0036	
B60A	3/27/2023	Acenaphthene	0.00007	0.053	
B60A	3/27/2023	Acenaphthylene	<0.00006		
B60A	3/27/2023	Anthracene	<0.00006	0.18	
B60A	3/27/2023	Benzo (a) anthracene	<0.00006	0.00003	
B60A	3/27/2023	Benzo (a) pyrene	<0.00006	0.0002	
B60A	3/27/2023	Benzo (b) fluoranthene	<0.00005	0.00025	
B60A	3/27/2023	Benzo (k) fluoranthene	<0.00005	0.0025	
B60A	3/27/2023	Carbazole	<0.00798		
B60A	3/27/2023	Chrysene	<0.00005	0.025	
B60A	3/27/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
B60A	3/27/2023	Dibenzofuran	<0.00122	0.00079	
B60A	3/27/2023	Fluoranthene	0.0001	0.08	
B60A	3/27/2023	Fluorene	<0.00012	0.029	
B60A	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.00017	0.00025	
B60A	3/27/2023	Naphthalene	0.00028	0.00062	
B60A	3/27/2023	Phenanthrene	0.00021		
B60A	3/27/2023	Pyrene	0.00006	0.012	
B60A	3/27/2023	2,4,6-Trichlorophenol	<0.00134	0.0012	
B60A	3/27/2023	2,4-Dimethylphenol	<0.00107	0.036	
B60A	3/27/2023	2,4-Dinitrophenol	<0.00439	0.0039	
B60A	3/27/2023	2-Methylphenol	<0.00126	0.093	
B60A	3/27/2023	3 & 4-Methylphenol	<0.00344	0.037	
B60A	3/27/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
B60A	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
B60A	3/27/2023	Di-n-octyl phthalate	<0.00173	0.02	
B60A	3/27/2023	Pentachlorophenol	<0.00102	0.001	
B60A	3/27/2023	Benzene	<0.005	0.005	
B60A	3/27/2023	Ethylbenzene	<0.005	0.7	
B65	3/23/2023	Arsenic	<0.002	0.01	
B65	3/23/2023	Chromium	<0.001	0.1	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
B65	3/23/2023	Lead	<0.001	0.015	
B65	3/23/2023	Nickel	<0.04	0.039	
B65	3/23/2023	1-Methylnaphthalene	<0.00131	0.0011	
B65	3/23/2023	2-Methylnaphthalene	0.00006	0.0036	
B65	3/23/2023	Acenaphthene	0.00008	0.053	
B65	3/23/2023	Acenaphthylene	<0.00006		
B65	3/23/2023	Anthracene	<0.00006	0.18	
B65	3/23/2023	Benzo (a) anthracene	<0.00006	0.00003	
B65	3/23/2023	Benzo (a) pyrene	0.0002	0.0002	
B65	3/23/2023	Benzo (b) fluoranthene	0.00021	0.00025	
B65	3/23/2023	Benzo (k) fluoranthene	0.00006	0.0025	
B65	3/23/2023	Carbazole	<0.00802		
B65	3/23/2023	Chrysene	<0.00005	0.025	
B65	3/23/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
B65	3/23/2023	Dibenzofuran	<0.00122	0.00079	
B65	3/23/2023	Fluoranthene	0.00007	0.08	
B65	3/23/2023	Fluorene	<0.00012	0.029	
B65	3/23/2023	Indeno (1,2,3-cd) pyrene	0.0002	0.00025	
B65	3/23/2023	Naphthalene	0.00023	0.00062	
B65	3/23/2023	Phenanthrene	0.00013		
B65	3/23/2023	Pyrene	<0.00005	0.012	
B65	3/23/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
B65	3/23/2023	2,4-Dimethylphenol	<0.00107	0.036	
B65	3/23/2023	2,4-Dinitrophenol	<0.00441	0.0039	
B65	3/23/2023	2-Methylphenol	<0.00127	0.093	
B65	3/23/2023	3 & 4-Methylphenol	<0.00346	0.037	
B65	3/23/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
B65	3/23/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
B65	3/23/2023	Di-n-octyl phthalate	<0.00173	0.02	
B65	3/23/2023	Pentachlorophenol	<0.00102	0.001	
B65	3/23/2023	Benzene	<0.005	0.005	
B65	3/23/2023	Ethylbenzene	<0.005	0.7	
B97	3/22/2023	Arsenic	0.0172	0.01	1
B97	3/22/2023	Chromium	0.00199	0.1	
B97	3/22/2023	Lead	<0.001	0.015	
B97	3/22/2023	Nickel	<0.04	0.039	
B97	3/22/2023	1-Methylnaphthalene	<0.00151	0.0011	
B97	3/22/2023	2-Methylnaphthalene	0.00081	0.0036	
B97	3/22/2023	Acenaphthene	0.00057	0.053	
B97	3/22/2023	Acenaphthylene	<0.00007		
B97	3/22/2023	Anthracene	<0.00007	0.18	
B97	3/22/2023	Benzo (a) anthracene	<0.00007	0.00003	
B97	3/22/2023	Benzo (a) pyrene	<0.00007	0.0002	
B97	3/22/2023	Benzo (b) fluoranthene	<0.00006	0.00025	
B97	3/22/2023	Benzo (k) fluoranthene	<0.00006	0.0025	
B97	3/22/2023	Carbazole	<0.00925		
B97	3/22/2023	Chrysene	0.00116	0.025	
B97	3/22/2023	Dibenz (a,h) anthracene	<0.00019	0.000025	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
B97	3/22/2023	Dibenzofuran	<0.00141	0.00079	
B97	3/22/2023	Fluoranthene	0.00019	0.08	
B97	3/22/2023	Fluorene	0.00034	0.029	
B97	3/22/2023	Indeno (1,2,3-cd) pyrene	<0.0002	0.00025	
B97	3/22/2023	Naphthalene	0.0012	0.00062	1
B97	3/22/2023	Phenanthrene	0.0004		
B97	3/22/2023	Pyrene	0.00076	0.012	
B97	3/22/2023	2,4,6-Trichlorophenol	<0.00155	0.0012	
B97	3/22/2023	2,4-Dimethylphenol	<0.00124	0.036	
B97	3/22/2023	2,4-Dinitrophenol	<0.00508	0.0039	
B97	3/22/2023	2-Methylphenol	<0.00146	0.093	
B97	3/22/2023	3 & 4-Methylphenol	<0.00399	0.037	
B97	3/22/2023	4-Chloro-3-Methylphenol	<0.00194	0.14	
B97	3/22/2023	Bis(2-ethylhexyl)phthalate	<0.00127	0.006	
B97	3/22/2023	Di-n-octyl phthalate	<0.002	0.02	
B97	3/22/2023	Pentachlorophenol	<0.00118	0.001	
B97	3/22/2023	Benzene	<0.005	0.005	
B97	3/22/2023	Ethylbenzene	<0.005	0.7	
E1	3/23/2023	Arsenic	<0.002	0.01	
E1	3/23/2023	Chromium	0.00533	0.1	
E1	3/23/2023	Lead	<0.001	0.015	
E1	3/23/2023	Nickel	<0.04	0.039	
E1	3/23/2023	1-Methylnaphthalene	0.0288	0.0011	1
E1	3/23/2023	2-Methylnaphthalene	0.0123	0.0036	1
E1	3/23/2023	Acenaphthene	0.308	0.053	1
E1	3/23/2023	Acenaphthylene	0.00513		
E1	3/23/2023	Anthracene	0.00509	0.18	
E1	3/23/2023	Benzo (a) anthracene	0.0129	0.00003	1
E1	3/23/2023	Benzo (a) pyrene	0.00423	0.0002	1
E1	3/23/2023	Benzo (b) fluoranthene	0.00642	0.00025	1
E1	3/23/2023	Benzo (k) fluoranthene	0.101	0.0025	1
E1	3/23/2023	Carbazole	<0.00806		
E1	3/23/2023	Chrysene	0.0111	0.025	
E1	3/23/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
E1	3/23/2023	Dibenzofuran	0.0306	0.00079	1
E1	3/23/2023	Fluoranthene	0.163	0.08	1
E1	3/23/2023	Fluorene	0.0311	0.029	1
E1	3/23/2023	Indeno (1,2,3-cd) pyrene	0.00018	0.00025	
E1	3/23/2023	Naphthalene	0.0164	0.00062	1
E1	3/23/2023	Phenanthrene	0.00417		
E1	3/23/2023	Pyrene	0.132	0.012	1
E1	3/23/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
E1	3/23/2023	2,4-Dimethylphenol	<0.00108	0.036	
E1	3/23/2023	2,4-Dinitrophenol	<0.00443	0.0039	
E1	3/23/2023	2-Methylphenol	<0.00127	0.093	
E1	3/23/2023	3 & 4-Methylphenol	<0.00348	0.037	
E1	3/23/2023	4-Chloro-3-Methylphenol	<0.00169	0.14	
E1	3/23/2023	Bis(2-ethylhexyl)phthalate	0.00203	0.006	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
E1	3/23/2023	Di-n-octyl phthalate	<0.00174	0.02	
E1	3/23/2023	Pentachlorophenol	<0.00103	0.001	
E1	3/23/2023	Benzene	0.0412	0.005	1
E1	3/23/2023	Ethylbenzene	0.0207	0.7	
E2	3/20/2023	Arsenic	<0.002	0.01	
E2	3/20/2023	Chromium	<0.001	0.1	
E2	3/20/2023	Lead	<0.001	0.015	
E2	3/20/2023	Nickel	<0.04	0.039	
E2	3/20/2023	1-Methylnaphthalene	<0.0013	0.0011	
E2	3/20/2023	2-Methylnaphthalene	<0.00005	0.0036	
E2	3/20/2023	Acenaphthene	0.00035	0.053	
E2	3/20/2023	Acenaphthylene	<0.00006		
E2	3/20/2023	Anthracene	<0.00006	0.18	
E2	3/20/2023	Benzo (a) anthracene	0.00009	0.00003	1
E2	3/20/2023	Benzo (a) pyrene	0.00052	0.0002	1
E2	3/20/2023	Benzo (b) fluoranthene	0.00072	0.00025	1
E2	3/20/2023	Benzo (k) fluoranthene	0.00053	0.0025	
E2	3/20/2023	Carbazole	<0.00798		
E2	3/20/2023	Chrysene	0.00007	0.025	
E2	3/20/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
E2	3/20/2023	Dibenzofuran	<0.00122	0.00079	
E2	3/20/2023	Fluoranthene	0.00012	0.08	
E2	3/20/2023	Fluorene	<0.00012	0.029	
E2	3/20/2023	Indeno (1,2,3-cd) pyrene	0.00036	0.00025	1
E2	3/20/2023	Naphthalene	<0.00015	0.00062	
E2	3/20/2023	Phenanthrene	0.00014		
E2	3/20/2023	Pyrene	0.00006	0.012	
E2	3/20/2023	2,4,6-Trichlorophenol	<0.00134	0.0012	
E2	3/20/2023	2,4-Dimethylphenol	<0.00107	0.036	
E2	3/20/2023	2,4-Dinitrophenol	<0.00439	0.0039	
E2	3/20/2023	2-Methylphenol	<0.00126	0.093	
E2	3/20/2023	3 & 4-Methylphenol	<0.00344	0.037	
E2	3/20/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
E2	3/20/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
E2	3/20/2023	Di-n-octyl phthalate	<0.00173	0.02	
E2	3/20/2023	Pentachlorophenol	<0.00102	0.001	
E2	3/20/2023	Benzene	<0.005	0.005	
E2	3/20/2023	Ethylbenzene	<0.005	0.7	
GCSump	4/5/2023	2-Methylnaphthalene	<0.0101	0.0036	
GCSump	4/5/2023	Acenaphthene	0.0914	0.053	1
GCSump	4/5/2023	Acenaphthylene	0.00489 J		
GCSump	4/5/2023	Anthracene	0.0223	0.18	
GCSump	4/5/2023	Benzo (a) anthracene	0.0288	0.00003	1
GCSump	4/5/2023	Benzo (a) pyrene	0.0234	0.0002	1
GCSump	4/5/2023	Benzo (b) fluoranthene	0.037	0.00025	1
GCSump	4/5/2023	Benzo (k) fluoranthene	0.0124	0.0025	1
GCSump	4/5/2023	Carbazole	0.0612		
GCSump	4/5/2023	Chrysene	0.0386	0.025	1

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
GCSump	4/5/2023	Dibenz (a,h) anthracene	0.00402 J	0.000025	1
GCSump	4/5/2023	Dibenzofuran	0.0513	0.00079	1
GCSump	4/5/2023	Fluoranthene	0.0797	0.08	
GCSump	4/5/2023	Fluorene	0.0621	0.029	1
GCSump	4/5/2023	Indeno (1,2,3-cd) pyrene	0.0114	0.00025	1
GCSump	4/5/2023	Naphthalene	0.00274 J	0.00062	1
GCSump	4/5/2023	Phenanthrene	0.0677		
GCSump	4/5/2023	Pyrene	0.056	0.012	1
GCSump	4/5/2023	2,4,6-Trichlorophenol	<0.0101	0.0012	
GCSump	4/5/2023	2,4-Dimethylphenol	<0.0101	0.036	
GCSump	4/5/2023	2,4-Dinitrophenol	<0.0101	0.0039	
GCSump	4/5/2023	2-Methylphenol	<0.0101	0.093	
GCSump	4/5/2023	3 & 4-Methylphenol	<0.0101	0.037	
GCSump	4/5/2023	4-Chloro-3-Methylphenol	<0.0101	0.14	
GCSump	4/5/2023	Bis(2-ethylhexyl)phthalate	0.00319 J	0.006	
GCSump	4/5/2023	Di-n-octyl phthalate	<0.0101	0.02	
GCSump	4/5/2023	Pentachlorophenol	<0.0101	0.001	
GCSump	4/5/2023	Benzene	<0.005	0.005	
GCSump	4/5/2023	Ethylbenzene	<0.005	0.7	
RC1	3/20/2023	Arsenic	<0.002	0.01	
RC1	3/20/2023	Chromium	<0.001	0.1	
RC1	3/20/2023	Lead	<0.001	0.015	
RC1	3/20/2023	Nickel	<0.04	0.039	
RC1	3/20/2023	2-Methylnaphthalene	0.236	0.0036	1
RC1	3/20/2023	Acenaphthene	0.191	0.053	1
RC1	3/20/2023	Acenaphthylene	0.00502 J		
RC1	3/20/2023	Anthracene	0.0483	0.18	
RC1	3/20/2023	Benzo (a) anthracene	0.038	0.00003	1
RC1	3/20/2023	Benzo (a) pyrene	0.015	0.0002	1
RC1	3/20/2023	Benzo (b) fluoranthene	0.0292	0.00025	1
RC1	3/20/2023	Benzo (k) fluoranthene	0.0114	0.0025	1
RC1	3/20/2023	Carbazole	0.23		
RC1	3/20/2023	Chrysene	0.0396	0.025	1
RC1	3/20/2023	Dibenz (a,h) anthracene	0.0027 J	0.000025	1
RC1	3/20/2023	Dibenzofuran	0.11	0.00079	1
RC1	3/20/2023	Fluoranthene	0.27	0.08	1
RC1	3/20/2023	Fluorene	0.155	0.029	1
RC1	3/20/2023	Indeno (1,2,3-cd) pyrene	0.00734 J	0.00025	1
RC1	3/20/2023	Naphthalene	4.98	0.00062	1
RC1	3/20/2023	Phenanthrene	0.273		
RC1	3/20/2023	Pyrene	0.129	0.012	1
RC1	3/20/2023	2,4,6-Trichlorophenol	<0.0102	0.0012	
RC1	3/20/2023	2,4-Dimethylphenol	0.305	0.036	1
RC1	3/20/2023	2,4-Dinitrophenol	<0.0102	0.0039	
RC1	3/20/2023	2-Methylphenol	0.00426 J	0.093	
RC1	3/20/2023	3 & 4-Methylphenol	0.0111	0.037	
RC1	3/20/2023	4-Chloro-3-Methylphenol	<0.0102	0.14	
RC1	3/20/2023	Bis(2-ethylhexyl)phthalate	<0.0102	0.006	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RC1	3/20/2023	Di-n-octyl phthalate	<0.0102	0.02	
RC1	3/20/2023	Pentachlorophenol	<0.0102	0.001	
RC1	3/20/2023	Benzene	0.00848	0.005	1
RC1	3/20/2023	Ethylbenzene	0.0314	0.7	
RC1A	3/20/2023	Arsenic	<0.002	0.01	
RC1A	3/20/2023	Chromium	<0.001	0.1	
RC1A	3/20/2023	Lead	<0.001	0.015	
RC1A	3/20/2023	Nickel	<0.04	0.039	
RC1A	3/20/2023	2-Methylnaphthalene	0.0312 J	0.0036	1
RC1A	3/20/2023	Acenaphthene	0.201	0.053	1
RC1A	3/20/2023	Acenaphthylene	<0.0104		
RC1A	3/20/2023	Anthracene	<0.0104	0.18	
RC1A	3/20/2023	Benzo (a) anthracene	<0.0104	0.00003	
RC1A	3/20/2023	Benzo (a) pyrene	<0.0104	0.0002	
RC1A	3/20/2023	Benzo (b) fluoranthene	<0.0104	0.00025	
RC1A	3/20/2023	Benzo (k) fluoranthene	<0.0104	0.0025	
RC1A	3/20/2023	Carbazole	0.426		
RC1A	3/20/2023	Chrysene	<0.0104	0.025	
RC1A	3/20/2023	Dibenz (a,h) anthracene	<0.0104	0.000025	
RC1A	3/20/2023	Dibenzofuran	0.0734	0.00079	1
RC1A	3/20/2023	Fluoranthene	<0.0104	0.08	
RC1A	3/20/2023	Fluorene	0.0957	0.029	1
RC1A	3/20/2023	Indeno (1,2,3-cd) pyrene	<0.0104	0.00025	
RC1A	3/20/2023	Naphthalene	1.69	0.00062	1
RC1A	3/20/2023	Phenanthrene	0.0474		
RC1A	3/20/2023	Pyrene	<0.0104	0.012	
RC1A	3/20/2023	2,4,6-Trichlorophenol	<0.0104	0.0012	
RC1A	3/20/2023	2,4-Dimethylphenol	<0.104	0.036	
RC1A	3/20/2023	2,4-Dinitrophenol	<0.0104	0.0039	
RC1A	3/20/2023	2-Methylphenol	<0.0104	0.093	
RC1A	3/20/2023	3 & 4-Methylphenol	<0.0104	0.037	
RC1A	3/20/2023	4-Chloro-3-Methylphenol	<0.104	0.14	
RC1A	3/20/2023	Bis(2-ethylhexyl)phthalate	<0.0104	0.006	
RC1A	3/20/2023	Di-n-octyl phthalate	<0.0104	0.02	
RC1A	3/20/2023	Pentachlorophenol	<0.0104	0.001	
RC1A	3/20/2023	Benzene	0.00615	0.005	1
RC1A	3/20/2023	Ethylbenzene	0.0287	0.7	
RC2	3/23/2023	Arsenic	<0.002	0.01	
RC2	3/23/2023	Chromium	0.0012	0.1	
RC2	3/23/2023	Lead	<0.001	0.015	
RC2	3/23/2023	Nickel	<0.04	0.039	
RC2	3/23/2023	2-Methylnaphthalene	<0.0105	0.0036	
RC2	3/23/2023	Acenaphthene	0.105	0.053	1
RC2	3/23/2023	Acenaphthylene	<0.0105		
RC2	3/23/2023	Anthracene	0.00445 J	0.18	
RC2	3/23/2023	Benzo (a) anthracene	<0.0105	0.00003	
RC2	3/23/2023	Benzo (a) pyrene	<0.0105	0.0002	
RC2	3/23/2023	Benzo (b) fluoranthene	<0.0105	0.00025	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RC2	3/23/2023	Benzo (k) fluoranthene	<0.0105	0.0025	
RC2	3/23/2023	Carbazole	<0.0105		
RC2	3/23/2023	Chrysene	<0.0105	0.025	
RC2	3/23/2023	Dibenz (a,h) anthracene	<0.0105	0.000025	
RC2	3/23/2023	Dibenzofuran	<0.0105	0.00079	
RC2	3/23/2023	Fluoranthene	<0.0105	0.08	
RC2	3/23/2023	Fluorene	0.0753	0.029	1
RC2	3/23/2023	Indeno (1,2,3-cd) pyrene	<0.0105	0.00025	
RC2	3/23/2023	Naphthalene	0.00654 J	0.00062	1
RC2	3/23/2023	Phenanthrene	0.0505		
RC2	3/23/2023	Pyrene	<0.0105	0.012	
RC2	3/23/2023	2,4,6-Trichlorophenol	<0.0105	0.0012	
RC2	3/23/2023	2,4-Dimethylphenol	<0.0105	0.036	
RC2	3/23/2023	2,4-Dinitrophenol	<0.0105	0.0039	
RC2	3/23/2023	2-Methylphenol	<0.0105	0.093	
RC2	3/23/2023	3 & 4-Methylphenol	<0.0105	0.037	
RC2	3/23/2023	4-Chloro-3-Methylphenol	<0.0105	0.14	
RC2	3/23/2023	Bis(2-ethylhexyl)phthalate	<0.0105	0.006	
RC2	3/23/2023	Di-n-octyl phthalate	<0.0105	0.02	
RC2	3/23/2023	Pentachlorophenol	<0.0105	0.001	
RC2	3/23/2023	Benzene	<0.005	0.005	
RC2	3/23/2023	Ethylbenzene	<0.005	0.7	
RC2A	3/23/2023	Arsenic	<0.002	0.01	
RC2A	3/23/2023	Chromium	<0.001	0.1	
RC2A	3/23/2023	Lead	<0.001	0.015	
RC2A	3/23/2023	Nickel	<0.04	0.039	
RC2A	3/23/2023	2-Methylnaphthalene	0.0107	0.0036	1
RC2A	3/23/2023	Acenaphthene	0.106	0.053	1
RC2A	3/23/2023	Acenaphthylene	0.0146		
RC2A	3/23/2023	Anthracene	0.0014 J	0.18	
RC2A	3/23/2023	Benzo (a) anthracene	<0.0105	0.00003	
RC2A	3/23/2023	Benzo (a) pyrene	<0.0105	0.0002	
RC2A	3/23/2023	Benzo (b) fluoranthene	<0.0105	0.00025	
RC2A	3/23/2023	Benzo (k) fluoranthene	<0.0105	0.0025	
RC2A	3/23/2023	Carbazole	0.00438 J		
RC2A	3/23/2023	Chrysene	<0.0105	0.025	
RC2A	3/23/2023	Dibenz (a,h) anthracene	<0.0105	0.000025	
RC2A	3/23/2023	Dibenzofuran	0.0149	0.00079	1
RC2A	3/23/2023	Fluoranthene	0.01 J	0.08	
RC2A	3/23/2023	Fluorene	0.0176	0.029	
RC2A	3/23/2023	Indeno (1,2,3-cd) pyrene	<0.0105	0.00025	
RC2A	3/23/2023	Naphthalene	0.0723	0.00062	1
RC2A	3/23/2023	Phenanthrene	0.00409 J		
RC2A	3/23/2023	Pyrene	0.00433 J	0.012	
RC2A	3/23/2023	2,4,6-Trichlorophenol	<0.0105	0.0012	
RC2A	3/23/2023	2,4-Dimethylphenol	0.00255 J	0.036	
RC2A	3/23/2023	2,4-Dinitrophenol	<0.0105	0.0039	
RC2A	3/23/2023	2-Methylphenol	0.00145 J	0.093	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RC2A	3/23/2023	3 & 4-Methylphenol	0.00381 J	0.037	
RC2A	3/23/2023	4-Chloro-3-Methylphenol	0.00112 J	0.14	
RC2A	3/23/2023	Bis(2-ethylhexyl)phthalate	<0.0105	0.006	
RC2A	3/23/2023	Di-n-octyl phthalate	<0.0105	0.02	
RC2A	3/23/2023	Pentachlorophenol	<0.0105	0.001	
RC2A	3/23/2023	Benzene	<0.005	0.005	
RC2A	3/23/2023	Ethylbenzene	0.0102	0.7	
RC3A	3/23/2023	Arsenic	<0.002	0.01	
RC3A	3/23/2023	Chromium	<0.001	0.1	
RC3A	3/23/2023	Lead	<0.001	0.015	
RC3A	3/23/2023	Nickel	<0.04	0.039	
RC3A	3/23/2023	2-Methylnaphthalene	0.00364 J	0.0036	1
RC3A	3/23/2023	Acenaphthene	0.0445	0.053	
RC3A	3/23/2023	Acenaphthylene	<0.0102		
RC3A	3/23/2023	Anthracene	<0.0102	0.18	
RC3A	3/23/2023	Benzo (a) anthracene	<0.0102	0.00003	
RC3A	3/23/2023	Benzo (a) pyrene	<0.0102	0.0002	
RC3A	3/23/2023	Benzo (b) fluoranthene	<0.0102	0.00025	
RC3A	3/23/2023	Benzo (k) fluoranthene	<0.0102	0.0025	
RC3A	3/23/2023	Carbazole	0.0182		
RC3A	3/23/2023	Chrysene	<0.0102	0.025	
RC3A	3/23/2023	Dibenz (a,h) anthracene	<0.0102	0.000025	
RC3A	3/23/2023	Dibenzofuran	0.00515 J	0.00079	1
RC3A	3/23/2023	Fluoranthene	0.00461 J	0.08	
RC3A	3/23/2023	Fluorene	0.0231	0.029	
RC3A	3/23/2023	Indeno (1,2,3-cd) pyrene	<0.0102	0.00025	
RC3A	3/23/2023	Naphthalene	0.056	0.00062	1
RC3A	3/23/2023	Phenanthrene	0.00269 J		
RC3A	3/23/2023	Pyrene	0.00208 J	0.012	
RC3A	3/23/2023	2,4,6-Trichlorophenol	<0.0102	0.0012	
RC3A	3/23/2023	2,4-Dimethylphenol	<0.0102	0.036	
RC3A	3/23/2023	2,4-Dinitrophenol	<0.0102	0.0039	
RC3A	3/23/2023	2-Methylphenol	<0.0102	0.093	
RC3A	3/23/2023	3 & 4-Methylphenol	<0.0102	0.037	
RC3A	3/23/2023	4-Chloro-3-Methylphenol	<0.0102	0.14	
RC3A	3/23/2023	Bis(2-ethylhexyl)phthalate	<0.0102	0.006	
RC3A	3/23/2023	Di-n-octyl phthalate	<0.0102	0.02	
RC3A	3/23/2023	Pentachlorophenol	<0.0102	0.001	
RC3A	3/23/2023	Benzene	<0.005	0.005	
RC3A	3/23/2023	Ethylbenzene	<0.005	0.7	
RW1	3/20/2023	Arsenic	0.00311	0.01	
RW1	3/20/2023	Chromium	<0.001	0.1	
RW1	3/20/2023	Lead	0.0133	0.015	
RW1	3/20/2023	Nickel	<0.04	0.039	
RW1	3/20/2023	1-Methylnaphthalene	<0.00133	0.0011	
RW1	3/20/2023	2-Methylnaphthalene	0.0001	0.0036	
RW1	3/20/2023	Acenaphthene	0.00277	0.053	
RW1	3/20/2023	Acenaphthylene	0.00007		

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW1	3/20/2023	Anthracene	0.0002	0.18	
RW1	3/20/2023	Benzo (a) anthracene	0.00028	0.00003	1
RW1	3/20/2023	Benzo (a) pyrene	0.00045	0.0002	1
RW1	3/20/2023	Benzo (b) fluoranthene	0.00085	0.00025	1
RW1	3/20/2023	Benzo (k) fluoranthene	0.00178	0.0025	
RW1	3/20/2023	Carbazole	<0.00815		
RW1	3/20/2023	Chrysene	0.00037	0.025	
RW1	3/20/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
RW1	3/20/2023	Dibenzofuran	<0.00124	0.00079	
RW1	3/20/2023	Fluoranthene	0.00161	0.08	
RW1	3/20/2023	Fluorene	0.00098	0.029	
RW1	3/20/2023	Indeno (1,2,3-cd) pyrene	0.00034	0.00025	1
RW1	3/20/2023	Naphthalene	0.00173	0.00062	1
RW1	3/20/2023	Phenanthrene	0.00137		
RW1	3/20/2023	Pyrene	0.00161	0.012	
RW1	3/20/2023	2,4,6-Trichlorophenol	<0.00137	0.0012	
RW1	3/20/2023	2,4-Dimethylphenol	<0.00109	0.036	
RW1	3/20/2023	2,4-Dinitrophenol	<0.00448	0.0039	
RW1	3/20/2023	2-Methylphenol	<0.00128	0.093	
RW1	3/20/2023	3 & 4-Methylphenol	<0.00351	0.037	
RW1	3/20/2023	4-Chloro-3-Methylphenol	<0.00171	0.14	
RW1	3/20/2023	Bis(2-ethylhexyl)phthalate	<0.00112	0.006	
RW1	3/20/2023	Di-n-octyl phthalate	<0.00176	0.02	
RW1	3/20/2023	Pentachlorophenol	<0.00104	0.001	
RW1	3/20/2023	Benzene	<0.005	0.005	
RW1	3/20/2023	Ethylbenzene	<0.005	0.7	
RW11	3/27/2023	2-Methylnaphthalene	<0.0103	0.0036	
RW11	3/27/2023	Acenaphthene	0.0722	0.053	1
RW11	3/27/2023	Acenaphthylene	0.0189		
RW11	3/27/2023	Anthracene	0.0162	0.18	
RW11	3/27/2023	Benzo (a) anthracene	0.0373	0.00003	1
RW11	3/27/2023	Benzo (a) pyrene	0.0428	0.0002	1
RW11	3/27/2023	Benzo (b) fluoranthene	0.0816	0.00025	1
RW11	3/27/2023	Benzo (k) fluoranthene	0.0349	0.0025	1
RW11	3/27/2023	Carbazole	0.0021 J		
RW11	3/27/2023	Chrysene	0.0324	0.025	1
RW11	3/27/2023	Dibenz (a,h) anthracene	<0.0103	0.000025	
RW11	3/27/2023	Dibenzofuran	0.00363 J	0.00079	1
RW11	3/27/2023	Fluoranthene	0.156	0.08	1
RW11	3/27/2023	Fluorene	0.00784 J	0.029	
RW11	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.0103	0.00025	
RW11	3/27/2023	Naphthalene	<0.0103	0.00062	
RW11	3/27/2023	Phenanthrene	0.0133		
RW11	3/27/2023	Pyrene	0.0792	0.012	1
RW11	3/27/2023	2,4,6-Trichlorophenol	<0.0103	0.0012	
RW11	3/27/2023	2,4-Dimethylphenol	<0.0103	0.036	
RW11	3/27/2023	2,4-Dinitrophenol	<0.0103	0.0039	
RW11	3/27/2023	2-Methylphenol	<0.0103	0.093	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW11	3/27/2023	3 & 4-Methylphenol	<0.0103	0.037	
RW11	3/27/2023	4-Chloro-3-Methylphenol	<0.0103	0.14	
RW11	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.0103	0.006	
RW11	3/27/2023	Di-n-octyl phthalate	<0.0103	0.02	
RW11	3/27/2023	Pentachlorophenol	<0.0103	0.001	
RW11	3/27/2023	Benzene	<0.005	0.005	
RW11	3/27/2023	Ethylbenzene	<0.005	0.7	
RW12	3/27/2023	2-Methylnaphthalene	<0.0102	0.0036	
RW12	3/27/2023	Acenaphthene	0.035	0.053	
RW12	3/27/2023	Acenaphthylene	<0.0102		
RW12	3/27/2023	Anthracene	0.00127 J	0.18	
RW12	3/27/2023	Benzo (a) anthracene	<0.0102	0.00003	
RW12	3/27/2023	Benzo (a) pyrene	<0.0102	0.0002	
RW12	3/27/2023	Benzo (b) fluoranthene	<0.0102	0.00025	
RW12	3/27/2023	Benzo (k) fluoranthene	<0.0102	0.0025	
RW12	3/27/2023	Carbazole	<0.0102		
RW12	3/27/2023	Chrysene	<0.0102	0.025	
RW12	3/27/2023	Dibenz (a,h) anthracene	<0.0102	0.000025	
RW12	3/27/2023	Dibenzofuran	<0.0102	0.00079	
RW12	3/27/2023	Fluoranthene	0.00259 J	0.08	
RW12	3/27/2023	Fluorene	0.0177	0.029	
RW12	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.0102	0.00025	
RW12	3/27/2023	Naphthalene	<0.0102	0.00062	
RW12	3/27/2023	Phenanthrene	0.00188 J		
RW12	3/27/2023	Pyrene	<0.0102	0.012	
RW12	3/27/2023	2,4,6-Trichlorophenol	<0.0102	0.0012	
RW12	3/27/2023	2,4-Dimethylphenol	<0.0102	0.036	
RW12	3/27/2023	2,4-Dinitrophenol	<0.0102	0.0039	
RW12	3/27/2023	2-Methylphenol	<0.0102	0.093	
RW12	3/27/2023	3 & 4-Methylphenol	<0.0102	0.037	
RW12	3/27/2023	4-Chloro-3-Methylphenol	<0.0102	0.14	
RW12	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.0102	0.006	
RW12	3/27/2023	Di-n-octyl phthalate	<0.0102	0.02	
RW12	3/27/2023	Pentachlorophenol	<0.0102	0.001	
RW12	3/27/2023	Benzene	<0.005	0.005	
RW12	3/27/2023	Ethylbenzene	<0.005	0.7	
RW13	3/27/2023	2-Methylnaphthalene	<0.0104	0.0036	
RW13	3/27/2023	Acenaphthene	<0.0104	0.053	
RW13	3/27/2023	Acenaphthylene	<0.0104		
RW13	3/27/2023	Anthracene	<0.0104	0.18	
RW13	3/27/2023	Benzo (a) anthracene	<0.0104	0.00003	
RW13	3/27/2023	Benzo (a) pyrene	0.00559 J	0.0002	1
RW13	3/27/2023	Benzo (b) fluoranthene	0.00844 J	0.00025	1
RW13	3/27/2023	Benzo (k) fluoranthene	0.00885 J	0.0025	1
RW13	3/27/2023	Carbazole	<0.0104		
RW13	3/27/2023	Chrysene	<0.0104	0.025	
RW13	3/27/2023	Dibenz (a,h) anthracene	<0.0104	0.000025	
RW13	3/27/2023	Dibenzofuran	<0.0104	0.00079	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW13	3/27/2023	Fluoranthene	<0.0104	0.08	
RW13	3/27/2023	Fluorene	<0.0104	0.029	
RW13	3/27/2023	Indeno (1,2,3-cd) pyrene	0.0054 J	0.00025	1
RW13	3/27/2023	Naphthalene	<0.0104	0.00062	
RW13	3/27/2023	Phenanthrene	<0.0104		
RW13	3/27/2023	Pyrene	<0.0104	0.012	
RW13	3/27/2023	2,4,6-Trichlorophenol	<0.0104	0.0012	
RW13	3/27/2023	2,4-Dimethylphenol	<0.0104	0.036	
RW13	3/27/2023	2,4-Dinitrophenol	<0.0104	0.0039	
RW13	3/27/2023	2-Methylphenol	<0.0104	0.093	
RW13	3/27/2023	3 & 4-Methylphenol	<0.0104	0.037	
RW13	3/27/2023	4-Chloro-3-Methylphenol	<0.0104	0.14	
RW13	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.0104	0.006	
RW13	3/27/2023	Di-n-octyl phthalate	<0.0104	0.02	
RW13	3/27/2023	Pentachlorophenol	<0.0104	0.001	
RW13	3/27/2023	Benzene	<0.005	0.005	
RW13	3/27/2023	Ethylbenzene	<0.005	0.7	
RW2	3/20/2023	Arsenic	0.00357	0.01	
RW2	3/20/2023	Chromium	<0.001	0.1	
RW2	3/20/2023	Lead	0.00252	0.015	
RW2	3/20/2023	Nickel	<0.04	0.039	
RW2	3/20/2023	1-Methylnaphthalene	0.0292	0.0011	1
RW2	3/20/2023	2-Methylnaphthalene	0.0495	0.0036	1
RW2	3/20/2023	Acenaphthene	0.0949	0.053	1
RW2	3/20/2023	Acenaphthylene	0.0023		
RW2	3/20/2023	Anthracene	0.0286	0.18	
RW2	3/20/2023	Benzo (a) anthracene	0.0438	0.00003	1
RW2	3/20/2023	Benzo (a) pyrene	0.024	0.0002	1
RW2	3/20/2023	Benzo (b) fluoranthene	0.039	0.00025	1
RW2	3/20/2023	Benzo (k) fluoranthene	0.0515	0.0025	1
RW2	3/20/2023	Carbazole	0.023		
RW2	3/20/2023	Chrysene	0.0431	0.025	1
RW2	3/20/2023	Dibenz (a,h) anthracene	0.00026	0.000025	1
RW2	3/20/2023	Dibenzofuran	0.0683	0.00079	1
RW2	3/20/2023	Fluoranthene	0.152	0.08	1
RW2	3/20/2023	Fluorene	0.0944	0.029	1
RW2	3/20/2023	Indeno (1,2,3-cd) pyrene	0.00065	0.00025	1
RW2	3/20/2023	Naphthalene	0.197	0.00062	1
RW2	3/20/2023	Phenanthrene	0.398		
RW2	3/20/2023	Pyrene	0.102	0.012	1
RW2	3/20/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
RW2	3/20/2023	2,4-Dimethylphenol	<0.00107	0.036	
RW2	3/20/2023	2,4-Dinitrophenol	<0.00441	0.0039	
RW2	3/20/2023	2-Methylphenol	<0.00127	0.093	
RW2	3/20/2023	3 & 4-Methylphenol	<0.00346	0.037	
RW2	3/20/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
RW2	3/20/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
RW2	3/20/2023	Di-n-octyl phthalate	<0.00173	0.02	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW2	3/20/2023	Pentachlorophenol	<0.00102	0.001	
RW2	3/20/2023	Benzene	<0.005	0.005	
RW2	3/20/2023	Ethylbenzene	<0.005	0.7	
RW3A	3/22/2023	Arsenic	0.00848	0.01	
RW3A	3/22/2023	Chromium	0.0014	0.1	
RW3A	3/22/2023	Lead	0.00234	0.015	
RW3A	3/22/2023	Nickel	<0.04	0.039	
RW3A	3/22/2023	1-Methylnaphthalene	0.354	0.0011	1
RW3A	3/22/2023	2-Methylnaphthalene	0.713	0.0036	1
RW3A	3/22/2023	Acenaphthene	3.12	0.053	1
RW3A	3/22/2023	Acenaphthylene	0.0662		
RW3A	3/22/2023	Anthracene	0.609	0.18	1
RW3A	3/22/2023	Benzo (a) anthracene	2.82	0.00003	1
RW3A	3/22/2023	Benzo (a) pyrene	1.76	0.0002	1
RW3A	3/22/2023	Benzo (b) fluoranthene	2.74	0.00025	1
RW3A	3/22/2023	Benzo (k) fluoranthene	3.77	0.0025	1
RW3A	3/22/2023	Carbazole	0.0612		
RW3A	3/22/2023	Chrysene	2.48	0.025	1
RW3A	3/22/2023	Dibenz (a,h) anthracene	0.306	0.000025	1
RW3A	3/22/2023	Dibenzofuran	1.65	0.00079	1
RW3A	3/22/2023	Fluoranthene	7.73	0.08	1
RW3A	3/22/2023	Fluorene	3.46	0.029	1
RW3A	3/22/2023	Indeno (1,2,3-cd) pyrene	0.205	0.00025	1
RW3A	3/22/2023	Naphthalene	1.2	0.00062	1
RW3A	3/22/2023	Phenanthrene	9.74		
RW3A	3/22/2023	Pyrene	5.73	0.012	1
RW3A	3/22/2023	2,4,6-Trichlorophenol	<0.00143	0.0012	
RW3A	3/22/2023	2,4-Dimethylphenol	0.00954	0.036	
RW3A	3/22/2023	2,4-Dinitrophenol	<0.0047	0.0039	
RW3A	3/22/2023	2-Methylphenol	0.00308	0.093	
RW3A	3/22/2023	3 & 4-Methylphenol	0.00958	0.037	
RW3A	3/22/2023	4-Chloro-3-Methylphenol	<0.00179	0.14	
RW3A	3/22/2023	Bis(2-ethylhexyl)phthalate	0.0185	0.006	1
RW3A	3/22/2023	Di-n-octyl phthalate	<0.0185	0.02	
RW3A	3/22/2023	Pentachlorophenol	<0.0109	0.001	
RW3A	3/22/2023	Benzene	0.0066	0.005	1
RW3A	3/22/2023	Ethylbenzene	0.0117	0.7	
RW3B	3/22/2023	Arsenic	<0.002	0.01	
RW3B	3/22/2023	Chromium	<0.001	0.1	
RW3B	3/22/2023	Lead	<0.001	0.015	
RW3B	3/22/2023	Nickel	<0.04	0.039	
RW3B	3/22/2023	1-Methylnaphthalene	0.00686	0.0011	1
RW3B	3/22/2023	2-Methylnaphthalene	0.0109	0.0036	1
RW3B	3/22/2023	Acenaphthene	0.0338	0.053	
RW3B	3/22/2023	Acenaphthylene	0.00051		
RW3B	3/22/2023	Anthracene	0.00453	0.18	
RW3B	3/22/2023	Benzo (a) anthracene	0.152	0.00003	1
RW3B	3/22/2023	Benzo (a) pyrene	0.0127	0.0002	1

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW3B	3/22/2023	Benzo (b) fluoranthene	0.157	0.00025	1
RW3B	3/22/2023	Benzo (k) fluoranthene	0.219	0.0025	1
RW3B	3/22/2023	Carbazole	<0.00798		
RW3B	3/22/2023	Chrysene	0.139	0.025	1
RW3B	3/22/2023	Dibenz (a,h) anthracene	0.00062	0.000025	1
RW3B	3/22/2023	Dibenzofuran	0.0165	0.00079	1
RW3B	3/22/2023	Fluoranthene	0.0275	0.08	
RW3B	3/22/2023	Fluorene	0.0261	0.029	
RW3B	3/22/2023	Indeno (1,2,3-cd) pyrene	0.00159	0.00025	1
RW3B	3/22/2023	Naphthalene	0.0188	0.00062	1
RW3B	3/22/2023	Phenanthrene	0.0315		
RW3B	3/22/2023	Pyrene	0.0782	0.012	1
RW3B	3/22/2023	2,4,6-Trichlorophenol	<0.00134	0.0012	
RW3B	3/22/2023	2,4-Dimethylphenol	<0.00107	0.036	
RW3B	3/22/2023	2,4-Dinitrophenol	<0.00439	0.0039	
RW3B	3/22/2023	2-Methylphenol	<0.00126	0.093	
RW3B	3/22/2023	3 & 4-Methylphenol	<0.00344	0.037	
RW3B	3/22/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
RW3B	3/22/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
RW3B	3/22/2023	Di-n-octyl phthalate	<0.00173	0.02	
RW3B	3/22/2023	Pentachlorophenol	<0.00102	0.001	
RW3B	3/22/2023	Benzene	<0.005	0.005	
RW3B	3/22/2023	Ethylbenzene	<0.005	0.7	
RW4	3/27/2023	Arsenic	<0.002	0.01	
RW4	3/27/2023	Chromium	<0.001	0.1	
RW4	3/27/2023	Lead	<0.001	0.015	
RW4	3/27/2023	Nickel	<0.04	0.039	
RW4	3/27/2023	1-Methylnaphthalene	0.0043	0.0011	1
RW4	3/27/2023	2-Methylnaphthalene	0.00061	0.0036	
RW4	3/27/2023	Acenaphthene	0.0078	0.053	
RW4	3/27/2023	Acenaphthylene	0.00027		
RW4	3/27/2023	Anthracene	0.00006	0.18	
RW4	3/27/2023	Benzo (a) anthracene	<0.00006	0.00003	
RW4	3/27/2023	Benzo (a) pyrene	<0.00006	0.0002	
RW4	3/27/2023	Benzo (b) fluoranthene	<0.00005	0.00025	
RW4	3/27/2023	Benzo (k) fluoranthene	<0.00005	0.0025	
RW4	3/27/2023	Carbazole	0.0245		
RW4	3/27/2023	Chrysene	<0.00005	0.025	
RW4	3/27/2023	Dibenz (a,h) anthracene	<0.00017	0.000025	
RW4	3/27/2023	Dibenzofuran	<0.00122	0.00079	
RW4	3/27/2023	Fluoranthene	0.00012	0.08	
RW4	3/27/2023	Fluorene	0.00279	0.029	
RW4	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.00018	0.00025	
RW4	3/27/2023	Naphthalene	0.0133	0.00062	1
RW4	3/27/2023	Phenanthrene	0.00032		
RW4	3/27/2023	Pyrene	0.00005	0.012	
RW4	3/27/2023	2,4,6-Trichlorophenol	<0.00134	0.0012	
RW4	3/27/2023	2,4-Dimethylphenol	<0.00107	0.036	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW4	3/27/2023	2,4-Dinitrophenol	<0.00439	0.0039	
RW4	3/27/2023	2-Methylphenol	<0.00126	0.093	
RW4	3/27/2023	3 & 4-Methylphenol	<0.00344	0.037	
RW4	3/27/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
RW4	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
RW4	3/27/2023	Di-n-octyl phthalate	<0.00173	0.02	
RW4	3/27/2023	Pentachlorophenol	<0.00102	0.001	
RW4	3/27/2023	Benzene	<0.005	0.005	
RW4	3/27/2023	Ethylbenzene	<0.005	0.7	
RW5	3/27/2023	Arsenic	<0.002	0.01	
RW5	3/27/2023	Chromium	<0.001	0.1	
RW5	3/27/2023	Lead	<0.001	0.015	
RW5	3/27/2023	Nickel	<0.04	0.039	
RW5	3/27/2023	1-Methylnaphthalene	<0.00131	0.0011	
RW5	3/27/2023	2-Methylnaphthalene	0.00016	0.0036	
RW5	3/27/2023	Acenaphthene	0.00013	0.053	
RW5	3/27/2023	Acenaphthylene	<0.00006		
RW5	3/27/2023	Anthracene	0.00008	0.18	
RW5	3/27/2023	Benzo (a) anthracene	0.00009	0.00003	1
RW5	3/27/2023	Benzo (a) pyrene	<0.00006	0.0002	
RW5	3/27/2023	Benzo (b) fluoranthene	0.00008	0.00025	
RW5	3/27/2023	Benzo (k) fluoranthene	<0.00005	0.0025	
RW5	3/27/2023	Carbazole	<0.00806		
RW5	3/27/2023	Chrysene	0.00007	0.025	
RW5	3/27/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
RW5	3/27/2023	Dibenzofuran	<0.00123	0.00079	
RW5	3/27/2023	Fluoranthene	0.00044	0.08	
RW5	3/27/2023	Fluorene	0.00018	0.029	
RW5	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.00018	0.00025	
RW5	3/27/2023	Naphthalene	0.00038	0.00062	
RW5	3/27/2023	Phenanthrene	0.00059		
RW5	3/27/2023	Pyrene	0.00024	0.012	
RW5	3/27/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
RW5	3/27/2023	2,4-Dimethylphenol	<0.00108	0.036	
RW5	3/27/2023	2,4-Dinitrophenol	<0.00443	0.0039	
RW5	3/27/2023	2-Methylphenol	<0.00127	0.093	
RW5	3/27/2023	3 & 4-Methylphenol	<0.00348	0.037	
RW5	3/27/2023	4-Chloro-3-Methylphenol	<0.00169	0.14	
RW5	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.00111	0.006	
RW5	3/27/2023	Di-n-octyl phthalate	<0.00174	0.02	
RW5	3/27/2023	Pentachlorophenol	<0.00103	0.001	
RW5	3/27/2023	Benzene	<0.005	0.005	
RW5	3/27/2023	Ethylbenzene	<0.005	0.7	
RW6	3/27/2023	2-Methylnaphthalene	0.383	0.0036	1
RW6	3/27/2023	Acenaphthene	0.657	0.053	1
RW6	3/27/2023	Acenaphthylene	<0.102		
RW6	3/27/2023	Anthracene	0.299	0.18	1
RW6	3/27/2023	Benzo (a) anthracene	0.12	0.00003	1

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW6	3/27/2023	Benzo (a) pyrene	0.0678	0.0002	1
RW6	3/27/2023	Benzo (b) fluoranthene	0.0635	0.00025	1
RW6	3/27/2023	Benzo (k) fluoranthene	0.0404	0.0025	1
RW6	3/27/2023	Carbazole	0.187		
RW6	3/27/2023	Chrysene	0.128	0.025	1
RW6	3/27/2023	Dibenz (a,h) anthracene	0.0132	0.000025	1
RW6	3/27/2023	Dibenzofuran	0.372	0.00079	1
RW6	3/27/2023	Fluoranthene	1.56	0.08	1
RW6	3/27/2023	Fluorene	0.532	0.029	1
RW6	3/27/2023	Indeno (1,2,3-cd) pyrene	0.0399	0.00025	1
RW6	3/27/2023	Naphthalene	0.554	0.00062	1
RW6	3/27/2023	Phenanthrene	1.49		
RW6	3/27/2023	Pyrene	0.596	0.012	1
RW6	3/27/2023	2,4,6-Trichlorophenol	<0.102	0.0012	
RW6	3/27/2023	2,4-Dimethylphenol	0.00097 J	0.036	
RW6	3/27/2023	2,4-Dinitrophenol	<0.102	0.0039	
RW6	3/27/2023	2-Methylphenol	<0.0102	0.093	
RW6	3/27/2023	3 & 4-Methylphenol	0.00289 J	0.037	
RW6	3/27/2023	4-Chloro-3-Methylphenol	0.00166 J	0.14	
RW6	3/27/2023	Bis(2-ethylhexyl)phthalate	0.0019 J	0.006	
RW6	3/27/2023	Di-n-octyl phthalate	<0.0102	0.02	
RW6	3/27/2023	Pentachlorophenol	0.6	0.001	1
RW6	3/27/2023	Benzene	0.0116	0.005	1
RW6	3/27/2023	Ethylbenzene	0.257	0.7	
RW7	3/27/2023	2-Methylnaphthalene	<0.0106	0.0036	
RW7	3/27/2023	Acenaphthene	<0.0106	0.053	
RW7	3/27/2023	Acenaphthylene	<0.0106		
RW7	3/27/2023	Anthracene	<0.0106	0.18	
RW7	3/27/2023	Benzo (a) anthracene	<0.0106	0.00003	
RW7	3/27/2023	Benzo (a) pyrene	<0.0106	0.0002	
RW7	3/27/2023	Benzo (b) fluoranthene	<0.0106	0.00025	
RW7	3/27/2023	Benzo (k) fluoranthene	<0.0106	0.0025	
RW7	3/27/2023	Carbazole	<0.0106		
RW7	3/27/2023	Chrysene	<0.0106	0.025	
RW7	3/27/2023	Dibenz (a,h) anthracene	<0.0106	0.000025	
RW7	3/27/2023	Dibenzofuran	<0.0106	0.00079	
RW7	3/27/2023	Fluoranthene	0.00105 J	0.08	
RW7	3/27/2023	Fluorene	<0.0106	0.029	
RW7	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.0106	0.00025	
RW7	3/27/2023	Naphthalene	<0.0106	0.00062	
RW7	3/27/2023	Phenanthrene	<0.0106		
RW7	3/27/2023	Pyrene	<0.0106	0.012	
RW7	3/27/2023	2,4,6-Trichlorophenol	<0.0106	0.0012	
RW7	3/27/2023	2,4-Dimethylphenol	<0.0106	0.036	
RW7	3/27/2023	2,4-Dinitrophenol	<0.0106	0.0039	
RW7	3/27/2023	2-Methylphenol	<0.0106	0.093	
RW7	3/27/2023	3 & 4-Methylphenol	<0.0106	0.037	
RW7	3/27/2023	4-Chloro-3-Methylphenol	<0.0106	0.14	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
RW7	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.0106	0.006	
RW7	3/27/2023	Di-n-octyl phthalate	<0.0106	0.02	
RW7	3/27/2023	Pentachlorophenol	<0.0106	0.001	
RW7	3/27/2023	Benzene	<0.005	0.005	
RW7	3/27/2023	Ethylbenzene	<0.005	0.7	
RW8A	3/27/2023	Arsenic	0.0021	0.01	
RW8A	3/27/2023	Chromium	0.0018	0.1	
RW8A	3/27/2023	Lead	0.00418	0.015	
RW8A	3/27/2023	Nickel	<0.04	0.039	
RW8A	3/27/2023	1-Methylnaphthalene	<0.00135	0.0011	
RW8A	3/27/2023	2-Methylnaphthalene	0.00069	0.0036	
RW8A	3/27/2023	Acenaphthene	0.00854	0.053	
RW8A	3/27/2023	Acenaphthylene	0.00011		
RW8A	3/27/2023	Anthracene	0.00017	0.18	
RW8A	3/27/2023	Benzo (a) anthracene	<0.00006	0.00003	
RW8A	3/27/2023	Benzo (a) pyrene	<0.00006	0.0002	
RW8A	3/27/2023	Benzo (b) fluoranthene	<0.00005	0.00025	
RW8A	3/27/2023	Benzo (k) fluoranthene	<0.00005	0.0025	
RW8A	3/27/2023	Carbazole	<0.00832		
RW8A	3/27/2023	Chrysene	<0.00005	0.025	
RW8A	3/27/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
RW8A	3/27/2023	Dibenzofuran	0.0018	0.00079	1
RW8A	3/27/2023	Fluoranthene	0.00035	0.08	
RW8A	3/27/2023	Fluorene	0.0026	0.029	
RW8A	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.00017	0.00025	
RW8A	3/27/2023	Naphthalene	0.00291	0.00062	1
RW8A	3/27/2023	Phenanthrene	0.00211		
RW8A	3/27/2023	Pyrene	0.00016	0.012	
RW8A	3/27/2023	2,4,6-Trichlorophenol	<0.0014	0.0012	
RW8A	3/27/2023	2,4-Dimethylphenol	<0.00111	0.036	
RW8A	3/27/2023	2,4-Dinitrophenol	<0.00457	0.0039	
RW8A	3/27/2023	2-Methylphenol	<0.00131	0.093	
RW8A	3/27/2023	3 & 4-Methylphenol	<0.00359	0.037	
RW8A	3/27/2023	4-Chloro-3-Methylphenol	<0.00175	0.14	
RW8A	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.00114	0.006	
RW8A	3/27/2023	Di-n-octyl phthalate	<0.0018	0.02	
RW8A	3/27/2023	Pentachlorophenol	<0.00106	0.001	
RW8A	3/27/2023	Benzene	<0.005	0.005	
RW8A	3/27/2023	Ethylbenzene	<0.005	0.7	
T1	3/27/2023	Arsenic	<0.002	0.01	
T1	3/27/2023	Chromium	<0.001	0.1	
T1	3/27/2023	Lead	<0.001	0.015	
T1	3/27/2023	Nickel	<0.04	0.039	
T1	3/27/2023	2-Methylnaphthalene	<0.0103	0.0036	
T1	3/27/2023	Acenaphthene	<0.0103	0.053	
T1	3/27/2023	Acenaphthylene	<0.0103		
T1	3/27/2023	Anthracene	0.0113	0.18	
T1	3/27/2023	Benzo (a) anthracene	0.0741	0.00003	1

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
T1	3/27/2023	Benzo (a) pyrene	0.0318	0.0002	1
T1	3/27/2023	Benzo (b) fluoranthene	0.0605	0.00025	1
T1	3/27/2023	Benzo (k) fluoranthene	0.0238	0.0025	1
T1	3/27/2023	Carbazole	<0.0103		
T1	3/27/2023	Chrysene	0.0556	0.025	1
T1	3/27/2023	Dibenz (a,h) anthracene	<0.0103	0.000025	
T1	3/27/2023	Dibenzofuran	<0.0103	0.00079	
T1	3/27/2023	Fluoranthene	0.359	0.08	1
T1	3/27/2023	Fluorene	<0.0103	0.029	
T1	3/27/2023	Indeno (1,2,3-cd) pyrene	<0.0103	0.00025	
T1	3/27/2023	Naphthalene	<0.0103	0.00062	
T1	3/27/2023	Phenanthrene	0.0235		
T1	3/27/2023	Pyrene	0.321	0.012	1
T1	3/27/2023	2,4,6-Trichlorophenol	<0.0103	0.0012	
T1	3/27/2023	2,4-Dimethylphenol	<0.0103	0.036	
T1	3/27/2023	2,4-Dinitrophenol	<0.0103	0.0039	
T1	3/27/2023	2-Methylphenol	<0.0103	0.093	
T1	3/27/2023	3 & 4-Methylphenol	<0.0103	0.037	
T1	3/27/2023	4-Chloro-3-Methylphenol	<0.0103	0.14	
T1	3/27/2023	Bis(2-ethylhexyl)phthalate	<0.0103	0.006	
T1	3/27/2023	Di-n-octyl phthalate	<0.0103	0.02	
T1	3/27/2023	Pentachlorophenol	<0.0103	0.001	
T1	3/27/2023	Benzene	<0.005	0.005	
T1	3/27/2023	Ethylbenzene	<0.005	0.7	
T2	4/5/2023	Arsenic	<0.002	0.01	
T2	4/5/2023	Chromium	<0.001	0.1	
T2	4/5/2023	Lead	<0.001	0.015	
T2	4/5/2023	Nickel	<0.04	0.039	
T2	4/5/2023	2-Methylnaphthalene	<0.0106	0.0036	
T2	4/5/2023	Acenaphthene	0.0525	0.053	
T2	4/5/2023	Acenaphthylene	<0.0106		
T2	4/5/2023	Anthracene	<0.0106	0.18	
T2	4/5/2023	Benzo (a) anthracene	0.0121	0.00003	1
T2	4/5/2023	Benzo (a) pyrene	<0.0106	0.0002	
T2	4/5/2023	Benzo (b) fluoranthene	<0.0106	0.00025	
T2	4/5/2023	Benzo (k) fluoranthene	<0.0106	0.0025	
T2	4/5/2023	Carbazole	<0.0106		
T2	4/5/2023	Chrysene	<0.0106	0.025	
T2	4/5/2023	Dibenz (a,h) anthracene	<0.0106	0.000025	
T2	4/5/2023	Dibenzofuran	<0.0106	0.00079	
T2	4/5/2023	Fluoranthene	0.0609	0.08	
T2	4/5/2023	Fluorene	<0.0106	0.029	
T2	4/5/2023	Indeno (1,2,3-cd) pyrene	<0.0106	0.00025	
T2	4/5/2023	Naphthalene	<0.0106	0.00062	
T2	4/5/2023	Phenanthrene	0.014		
T2	4/5/2023	Pyrene	0.0461	0.012	1
T2	4/5/2023	2,4,6-Trichlorophenol	<0.0106	0.0012	
T2	4/5/2023	2,4-Dimethylphenol	<0.0106	0.036	

Table L-4
Comparison of First Half 2023 Results to GWPS
Cavenham Forest Industries LLC
Mobile, Alabama

WELL	SAMPLE DATE	ANALYTE	RESULT(mg/L)	Groundwater Protection Standard (mg/L)	Concentrations > GWPS
T2	4/5/2023	2,4-Dinitrophenol	<0.0106	0.0039	
T2	4/5/2023	2-Methylphenol	<0.0106	0.093	
T2	4/5/2023	3 & 4-Methylphenol	<0.0106	0.037	
T2	4/5/2023	4-Chloro-3-Methylphenol	<0.0106	0.14	
T2	4/5/2023	Bis(2-ethylhexyl)phthalate	<0.0106	0.006	
T2	4/5/2023	Di-n-octyl phthalate	<0.0106	0.02	
T2	4/5/2023	Pentachlorophenol	<0.0106	0.001	
T2	4/5/2023	Benzene	<0.005	0.005	
T2	4/5/2023	Ethylbenzene	<0.005	0.7	
UG2	3/21/2023	Arsenic	<0.002	0.01	
UG2	3/21/2023	Chromium	<0.001	0.1	
UG2	3/21/2023	Lead	<0.001	0.015	
UG2	3/21/2023	Nickel	<0.04	0.039	
UG2	3/21/2023	1-Methylnaphthalene	<0.00131	0.0011	
UG2	3/21/2023	2-Methylnaphthalene	0.00005	0.0036	
UG2	3/21/2023	Acenaphthene	0.00005	0.053	
UG2	3/21/2023	Acenaphthylene	<0.00006		
UG2	3/21/2023	Anthracene	<0.00006	0.18	
UG2	3/21/2023	Benzo (a) anthracene	<0.00006	0.00003	
UG2	3/21/2023	Benzo (a) pyrene	0.00029	0.0002	1
UG2	3/21/2023	Benzo (b) fluoranthene	0.00034	0.00025	1
UG2	3/21/2023	Benzo (k) fluoranthene	0.00024	0.0025	
UG2	3/21/2023	Carbazole	<0.00802		
UG2	3/21/2023	Chrysene	<0.00005	0.025	
UG2	3/21/2023	Dibenz (a,h) anthracene	<0.00016	0.000025	
UG2	3/21/2023	Dibenzofuran	<0.00122	0.00079	
UG2	3/21/2023	Fluoranthene	0.0001	0.08	
UG2	3/21/2023	Fluorene	<0.00012	0.029	
UG2	3/21/2023	Indeno (1,2,3-cd) pyrene	0.00026	0.00025	1
UG2	3/21/2023	Naphthalene	0.00016	0.00062	
UG2	3/21/2023	Phenanthrene	0.00024		
UG2	3/21/2023	Pyrene	0.00006	0.012	
UG2	3/21/2023	2,4,6-Trichlorophenol	<0.00135	0.0012	
UG2	3/21/2023	2,4-Dimethylphenol	<0.00107	0.036	
UG2	3/21/2023	2,4-Dinitrophenol	<0.00441	0.0039	
UG2	3/21/2023	2-Methylphenol	<0.00127	0.093	
UG2	3/21/2023	3 & 4-Methylphenol	<0.00346	0.037	
UG2	3/21/2023	4-Chloro-3-Methylphenol	<0.00168	0.14	
UG2	3/21/2023	Bis(2-ethylhexyl)phthalate	<0.0011	0.006	
UG2	3/21/2023	Di-n-octyl phthalate	<0.00173	0.02	
UG2	3/21/2023	Pentachlorophenol	<0.00102	0.001	
UG2	3/21/2023	Benzene	<0.005	0.005	
UG2	3/21/2023	Ethylbenzene	<0.005	0.7	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	B101		B108A	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		ND	
Chromium (mg/L)	ND		ND	
Lead (mg/L)	ND		0.00118	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.00004 - 0.00008		0.00005	
Acenaphthylene	ND		ND	
Anthracene	0.00002 - 0.00009		ND	
Benzo (a) anthracene	0.00002 - 0.00007	1	0.00002	
Benzo (a) pyrene	0.0004	1	0.00002 - 0.00029	1
Benzo (b) fluoranthene	0.00051	1	0.00004 - 0.00036	1
Benzo (k) fluoranthene	0.00038		0.0001	
Carbazole	ND		ND	
Chrysene	0.00005		0.00003	
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	0.00007 - 0.00152		0.00007 - 0.00008	
Fluorene	0.00004 - 0.00023		0.00003	
Indeno (1,2,3-cd) pyrene	0.00026	1	0.00025	
2-Methylnaphthalene	0.00005 - 0.00007		ND	
Naphthalene	0.00009 - 0.00021		0.00004	
Phenanthrene	0.00012 - 0.00029		0.00007 - 0.00022	
Pyrene	0.00004 - 0.00421		0.00004	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		ND	
Dibenzofuran	ND		ND	
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	B128		B24	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		ND	
Chromium (mg/L)	0.00285 - 0.00401		ND	
Lead (mg/L)	0.00219 - 0.00361		ND	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.00002 - 0.00009		0.00002	
Acenaphthylene	ND		0.00001	
Anthracene	0.00002 - 0.00007		0.00002	
Benzo (a) anthracene	0.00006	1	0.00007	1
Benzo (a) pyrene	0.00002 - 0.00035	1	0.00002 - 0.00046	1
Benzo (b) fluoranthene	0.00004 - 0.00044	1	0.00004 - 0.00067	1
Benzo (k) fluoranthene	0.00012		0.00021	
Carbazole	ND		ND	
Chrysene	0.00003 - 0.00005		0.00003 - 0.00005	
Dibenz (a,h) anthracene	ND		0.00016	1
Fluoranthene	0.00005 - 0.00017		0.00003 - 0.00006	
Fluorene	0.00002		0.00003	
Indeno (1,2,3-cd) pyrene	0.00024		0.00041	1
2-Methylnaphthalene	0.00011		ND	
Naphthalene	0.00004 - 0.00015		0.00004	
Phenanthrene	0.00006 - 0.00206		0.00008 - 0.00009	
Pyrene	0.00004 - 0.0001		0.00002	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		ND	
Dibenzofuran	ND		ND	
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	B25		B36	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		ND	
Chromium (mg/L)	ND		ND	
Lead (mg/L)	ND		0.00159 - 0.00196	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.00002		0.00012	
Acenaphthylene	ND		ND	
Anthracene	0.00004		0.00003	
Benzo (a) anthracene	0.00007	1	ND	
Benzo (a) pyrene	0.00039	1	0.00025	1
Benzo (b) fluoranthene	0.00003 - 0.00053	1	0.00026	1
Benzo (k) fluoranthene	0.00014		0.00008	
Carbazole	ND		ND	
Chrysene	0.00003 - 0.00005		0.00003	
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	0.00013 - 0.00035		0.00007 - 0.00008	
Fluorene	0.00002		0.00003	
Indeno (1,2,3-cd) pyrene	0.00029	1	0.00023	
2-Methylnaphthalene	ND		0.00007	
Naphthalene	0.00004		0.00005 - 0.00023	
Phenanthrene	0.00009 - 0.0001		0.00009 - 0.00012	
Pyrene	0.00007 - 0.0008		0.00006	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	0.00133		0.00085	
Dibenzofuran	ND		ND	
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	B60A		B65	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	0.00288		ND	
Chromium (mg/L)	0.00163 - 1.29	1	ND	
Lead (mg/L)	0.0106		ND	
Nickel (mg/L)	0.134 - 0.421	3	ND	
Acenaphthene	0.00002 - 0.00007		0.00008	
Acenaphthylene	ND		ND	
Anthracene	ND		ND	
Benzo (a) anthracene	ND		ND	
Benzo (a) pyrene	ND		0.0002	
Benzo (b) fluoranthene	ND		0.00021	
Benzo (k) fluoranthene	ND		0.00006	
Carbazole	ND		ND	
Chrysene	ND		ND	
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	0.0001		0.00007	
Fluorene	0.00002		ND	
Indeno (1,2,3-cd) pyrene	ND		0.0002	
2-Methylnaphthalene	0.0001		0.00006	
Naphthalene	0.00004 - 0.00028		0.00023	
Phenanthrene	0.00005 - 0.00021		0.00013	
Pyrene	0.00006		ND	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		ND	
Dibenzofuran	ND		ND	
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	B97		E1	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	0.00358 - 0.0172	2	0.0292	1
Chromium (mg/L)	0.00118 - 0.00199		0.00256 - 0.00779	
Lead (mg/L)	ND		0.00513	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.00004 - 0.00057		0.0631 - 0.885	7
Acenaphthylene	ND		0.0034 - 0.0142	
Anthracene	ND		0.00088 - 0.0562	
Benzo (a) anthracene	ND		0.00496 - 0.0511	6
Benzo (a) pyrene	0.00002		0.00266 - 0.019	7
Benzo (b) fluoranthene	ND		0.0042 - 0.0265	5
Benzo (k) fluoranthene	ND		0.00106 - 0.101	2
Carbazole	ND		0.0041 - 0.0643	
Chrysene	0.00116		0.00549 - 0.043	1
Dibenz (a,h) anthracene	ND		0.0001 - 0.00074	3
Fluoranthene	0.00003 - 0.00019		0.0289 - 0.519	5
Fluorene	0.00003 - 0.00034		0.00113 - 0.47	4
Indeno (1,2,3-cd) pyrene	ND		0.00018 - 0.00237	3
2-Methylnaphthalene	0.00081		0.00176 - 0.958	4
Naphthalene	0.00004 - 0.0012	1	0.00037 - 0.496	4
Phenanthrene	0.00007 - 0.0004		0.00173 - 0.975	
Pyrene	0.00076		0.0176 - 0.171	7
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		0.00036	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		0.00203 - 0.00661	1
Dibenzofuran	ND		0.00499 - 0.47	6
Di-n-octyl phthalate	ND		ND	
Benzene	ND		0.0086 - 0.0465	7
Ethylbenzene	ND		0.0083 - 0.118	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	E2		GCSump	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		NA	
Chromium (mg/L)	0.00102 - 0.00253		NA	
Lead (mg/L)	ND		NA	
Nickel (mg/L)	ND		NA	
Acenaphthene	0.00005 - 0.00035		0.0757 - 0.188	3
Acenaphthylene	ND		0.00489	
Anthracene	0.00003		0.0177 - 0.0223	
Benzo (a) anthracene	0.00003 - 0.00009	1	0.0288	1
Benzo (a) pyrene	0.00002 - 0.00052	1	0.0234	1
Benzo (b) fluoranthene	0.00004 - 0.00072	1	0.037	1
Benzo (k) fluoranthene	0.00053		0.0124	1
Carbazole	ND		0.0612 - 0.0842	
Chrysene	0.00003 - 0.00007		0.00668 - 0.0386	1
Dibenz (a,h) anthracene	ND		0.00164 - 0.00402	2
Fluoranthene	0.00009 - 0.00012		0.0501 - 0.0797	
Fluorene	0.00003		0.0203 - 0.0806	2
Indeno (1,2,3-cd) pyrene	0.00036	1	0.00257 - 0.0114	2
2-Methylnaphthalene	ND		ND	
Naphthalene	0.00004		0.00274 - 0.0275	3
Phenanthrene	0.00008 - 0.00014		0.0677 - 0.129	
Pyrene	0.00006 - 0.00007		0.029 - 0.056	2
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		0.0197	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		0.0109	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		0.00414	1
Bis(2-ethylhexyl)phthalate	0.00087		0.00319	
Dibenzofuran	ND		0.0142 - 0.0704	3
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RC1		RC1A	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		ND	
Chromium (mg/L)	ND		0.00938	
Lead (mg/L)	ND		ND	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.191 - 0.515	7	0.201 - 0.452	6
Acenaphthylene	0.00287 - 0.00502		0.00173	
Anthracene	0.0138 - 0.0483		0.00271 - 0.00508	
Benzo (a) anthracene	0.0106 - 0.038	2	ND	
Benzo (a) pyrene	0.00429 - 0.015	2	ND	
Benzo (b) fluoranthene	0.00136 - 0.0292	3	ND	
Benzo (k) fluoranthene	0.00377 - 0.0114	3	0.00172	
Carbazole	0.23 - 0.717		0.418 - 0.887	
Chrysene	0.00774 - 0.0396	1	ND	
Dibenz (a,h) anthracene	0.00087 - 0.0027	2	ND	
Fluoranthene	0.0153 - 0.27	1	ND	
Fluorene	0.103 - 0.227	7	0.0804 - 0.177	7
Indeno (1,2,3-cd) pyrene	0.00163 - 0.00734	2	ND	
2-Methylnaphthalene	0.236 - 0.598	7	0.0118 - 0.0957	6
Naphthalene	3.38 - 23.8	7	0.856 - 3.72	7
Phenanthrene	0.1 - 0.273		0.0474 - 0.114	
Pyrene	0.0124 - 0.129	6	0.00138	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	0.305 - 0.734	7	0.00627 - 0.00679	
2,4-Dinitrophenol	0.00763	1	0.00752	1
2-Methylphenol	0.00191 - 0.00426		0.00225 - 0.00295	
3 & 4-Methylphenol	0.0111 - 0.0829	3	0.00288	
4-Chloro-3-Methylphenol	0.0148 - 0.0268		0.00707 - 0.00796	
Pentachlorophenol	0.00615	1	0.00614	1
Bis(2-ethylhexyl)phthalate	0.0343	1	ND	
Dibenzofuran	0.0977 - 0.188	7	0.0734 - 0.176	7
Di-n-octyl phthalate	ND		ND	
Benzene	0.00848 - 0.0133	7	0.00576 - 0.00641	4
Ethylbenzene	0.0314 - 0.0531		0.0153 - 0.0326	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RC2		RC2A	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		ND	
Chromium (mg/L)	0.00104 - 0.00342		ND	
Lead (mg/L)	ND		ND	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.0197 - 0.105	1	0.106 - 0.596	7
Acenaphthylene	ND		0.00301 - 0.0146	
Anthracene	0.00274 - 0.00445		0.0014 - 0.0112	
Benzo (a) anthracene	0.00363	1	ND	
Benzo (a) pyrene	0.00424	1	ND	
Benzo (b) fluoranthene	0.00457	1	ND	
Benzo (k) fluoranthene	0.0021 - 0.00382	1	0.00164	
Carbazole	ND		0.00438 - 0.548	
Chrysene	0.00344		ND	
Dibenz (a,h) anthracene	0.00339	1	ND	
Fluoranthene	0.00148		0.00824 - 0.0138	
Fluorene	0.00409 - 0.0753	1	0.0176 - 0.21	6
Indeno (1,2,3-cd) pyrene	0.00401	1	ND	
2-Methylnaphthalene	ND		0.00498 - 0.0107	3
Naphthalene	0.00327 - 0.00654	2	0.0723 - 0.65	7
Phenanthrene	0.0016 - 0.0577		0.00409 - 0.12	
Pyrene	0.00163		0.00419 - 0.00541	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		0.00255	
2,4-Dinitrophenol	0.00816	1	0.00911	1
2-Methylphenol	ND		0.00145	
3 & 4-Methylphenol	ND		0.00381	
4-Chloro-3-Methylphenol	ND		0.00112	
Pentachlorophenol	0.0061	1	0.00619	1
Bis(2-ethylhexyl)phthalate	0.00254		0.0136	1
Dibenzofuran	ND		0.0149 - 0.169	7
Di-n-octyl phthalate	0.00214		ND	
Benzene	ND		ND	
Ethylbenzene	ND		0.00576 - 0.0102	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RC3		RC3A	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		ND	
Chromium (mg/L)	0.00162 - 0.00212		0.00106	
Lead (mg/L)	0.00148 - 0.00186		ND	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.00774 - 57.2	5	0.0296 - 0.138	2
Acenaphthylene	0.0232 - 0.216		ND	
Anthracene	0.0508 - 1.03	5	ND	
Benzo (a) anthracene	0.0687 - 1.74	6	ND	
Benzo (a) pyrene	0.0242 - 4.29	6	ND	
Benzo (b) fluoranthene	0.0433 - 6.66	6	ND	
Benzo (k) fluoranthene	0.115 - 3.09	5	0.0015	
Carbazole	0.219 - 6.82		0.00398 - 0.0182	
Chrysene	0.0475 - 1.06	6	ND	
Dibenz (a,h) anthracene	0.0231 - 0.311	3	ND	
Fluoranthene	0.201 - 120	6	0.00316 - 0.00768	
Fluorene	0.293 - 65.4	6	0.0148 - 0.0476	2
Indeno (1,2,3-cd) pyrene	0.0551 - 0.806	3	ND	
2-Methylnaphthalene	0.376 - 46.6	6	0.00237 - 0.00364	1
Naphthalene	0.978 - 80.1	6	0.00895 - 0.056	5
Phenanthrene	0.574 - 97		0.00154 - 0.00269	
Pyrene	0.184 - 3.92	6	0.00183 - 0.00353	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	0.0246 - 0.0342		0.00158 - 0.00231	
2,4-Dinitrophenol	0.0969	1	0.00853	1
2-Methylphenol	0.0324 - 0.164	3	ND	
3 & 4-Methylphenol	0.0289 - 0.163	4	ND	
4-Chloro-3-Methylphenol	0.00174		ND	
Pentachlorophenol	0.0713	1	0.00626	1
Bis(2-ethylhexyl)phthalate	0.00192		0.0075	1
Dibenzofuran	0.208 - 14.4	6	0.00252 - 0.00515	3
Di-n-octyl phthalate	0.00164		ND	
Benzene	0.0158 - 0.0403	6	ND	
Ethylbenzene	0.0243 - 0.0588		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW1		RW2	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	0.00207 - 0.0168	1	0.00258 - 0.00392	
Chromium (mg/L)	0.00497 - 0.0232		ND	
Lead (mg/L)	0.00164 - 0.0638	1	0.00105 - 0.0073	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.00016 - 0.0112		0.0158 - 0.677	7
Acenaphthylene	0.00002 - 0.00007		0.0023 - 0.00489	
Anthracene	0.00003 - 0.0002		0.00074 - 0.138	
Benzo (a) anthracene	0.00016 - 0.00109	4	0.00152 - 0.0918	5
Benzo (a) pyrene	0.00005 - 0.00149	2	0.00043 - 0.0297	8
Benzo (b) fluoranthene	0.0004 - 0.00207	4	0.00172 - 0.0499	5
Benzo (k) fluoranthene	0.00006 - 0.00178		0.00117 - 0.0515	4
Carbazole	ND		0.00593 - 0.108	
Chrysene	0.00003 - 0.00162		0.00134 - 0.0624	3
Dibenz (a,h) anthracene	0.00007	1	0.00026 - 0.00091	3
Fluoranthene	0.00072 - 0.00627		0.0201 - 0.617	3
Fluorene	0.00016 - 0.0068		0.00141 - 0.678	7
Indeno (1,2,3-cd) pyrene	0.00012 - 0.00034	1	0.00041 - 0.00229	4
2-Methylnaphthalene	0.00007 - 0.0008		0.00006 - 0.165	5
Naphthalene	0.00044 - 0.00173	1	0.197 - 1.22	5
Phenanthrene	0.00023 - 0.00195		0.00108 - 1.66	
Pyrene	0.0005 - 0.00396		0.0105 - 0.457	7
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		0.0025 - 0.00548	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		0.00069	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		0.00035	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		ND	
Dibenzofuran	ND		0.00108 - 0.41	8
Di-n-octyl phthalate	ND		0.00046	
Benzene	ND		ND	
Ethylbenzene	ND		0.00514 - 0.00568	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW3A		RW3B	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	0.00201 - 0.00848		0.00361	
Chromium (mg/L)	0.0014		0.0174	
Lead (mg/L)	0.00112 - 0.00234		0.00735 - 0.0184	1
Nickel (mg/L)	ND		ND	
Acenaphthene	0.142 - 3.12	6	0.0338 - 0.431	2
Acenaphthylene	0.00406 - 0.0662		0.00051 - 0.00171	
Anthracene	0.0111 - 0.609	2	0.00453 - 0.0879	
Benzo (a) anthracene	0.00161 - 2.82	5	0.0443 - 0.152	3
Benzo (a) pyrene	0.00055 - 1.76	7	0.0127 - 0.0508	3
Benzo (b) fluoranthene	0.0009 - 2.74	5	0.0391 - 0.157	3
Benzo (k) fluoranthene	0.00019 - 3.77	3	0.00951 - 0.219	3
Carbazole	0.0612 - 0.657		0.0529	
Chrysene	0.00129 - 2.48	4	0.037 - 0.139	3
Dibenz (a,h) anthracene	0.00033 - 0.306	4	0.00062 - 0.0028	2
Fluoranthene	0.0332 - 7.73	4	0.0275 - 0.479	2
Fluorene	0.0504 - 3.46	6	0.0261 - 0.346	2
Indeno (1,2,3-cd) pyrene	0.00043 - 0.205	4	0.00159 - 0.017	3
2-Methylnaphthalene	0.00253 - 0.713	5	0.0109 - 0.231	3
Naphthalene	0.00263 - 4.14	6	0.00789 - 0.581	3
Phenanthrene	0.0894 - 9.74		0.0315 - 0.872	
Pyrene	0.0171 - 5.73	6	0.0782 - 0.227	3
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	0.00108 - 0.114	1	ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	0.00308 - 0.0158		ND	
3 & 4-Methylphenol	0.00449 - 0.0165		ND	
4-Chloro-3-Methylphenol	0.00636		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	0.0185	1	ND	
Dibenzofuran	0.0299 - 1.65	6	0.0165 - 0.235	3
Di-n-octyl phthalate	ND		ND	
Benzene	0.0066 - 0.00691	2	ND	
Ethylbenzene	0.00539 - 0.0263		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW4		RW5	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	ND		0.00361	
Chromium (mg/L)	0.00105 - 0.00278		ND	
Lead (mg/L)	0.00237 - 0.00276		0.00162 - 0.0181	1
Nickel (mg/L)	ND		ND	
Acenaphthene	0.00002 - 0.212	1	0.00006 - 0.508	1
Acenaphthylene	0.00027 - 0.0018		0.00431	
Anthracene	0.00003 - 0.00219		0.00008 - 0.0121	
Benzo (a) anthracene	ND		0.00009	1
Benzo (a) pyrene	ND		ND	
Benzo (b) fluoranthene	ND		0.00008	
Benzo (k) fluoranthene	ND		ND	
Carbazole	0.0245 - 0.246		0.755	
Chrysene	0.00003		0.00007	
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	0.00005 - 0.0016		0.00004 - 0.00497	
Fluorene	0.00003 - 0.0573	1	0.00003 - 0.239	1
Indeno (1,2,3-cd) pyrene	ND		ND	
2-Methylnaphthalene	0.00007 - 0.0428	1	0.00006 - 0.231	1
Naphthalene	0.00005 - 0.479	3	0.00004 - 4.43	1
Phenanthrene	0.00007 - 0.0387		0.00006 - 0.192	
Pyrene	0.00003 - 0.00064		0.00003 - 0.00176	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	0.00556		0.0768	1
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	0.00097		0.0117	
3 & 4-Methylphenol	ND		0.00517	
4-Chloro-3-Methylphenol	ND		0.00359	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	0.00051		0.00057	
Dibenzofuran	0.0461	1	0.215	1
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	0.0179		0.0241	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW6		RW7	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	NA		NA	
Chromium (mg/L)	NA		NA	
Lead (mg/L)	NA		NA	
Nickel (mg/L)	NA		NA	
Acenaphthene	0.657 - 346	3	ND	
Acenaphthylene	0.0307 - 3.27		ND	
Anthracene	0.299 - 40.7	3	ND	
Benzo (a) anthracene	0.12 - 44.3	3	ND	
Benzo (a) pyrene	0.0678 - 8.24	3	ND	
Benzo (b) fluoranthene	0.0635 - 13	3	ND	
Benzo (k) fluoranthene	0.0404 - 4.12	3	ND	
Carbazole	0.187 - 43.7		0.00152	
Chrysene	0.128 - 38	3	ND	
Dibenz (a,h) anthracene	0.0126 - 0.0132	2	ND	
Fluoranthene	1.56 - 254	3	0.00105 - 0.00176	
Fluorene	0.532 - 278	3	0.00105	
Indeno (1,2,3-cd) pyrene	0.0305 - 2.1	3	ND	
2-Methylnaphthalene	0.32 - 431	3	ND	
Naphthalene	0.105 - 440	3	ND	
Phenanthrene	1.49 - 506		ND	
Pyrene	0.596 - 161	3	ND	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	0.00097		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	0.00664		ND	
3 & 4-Methylphenol	0.00289 - 0.00559		ND	
4-Chloro-3-Methylphenol	0.00166		ND	
Pentachlorophenol	0.6	1	ND	
Bis(2-ethylhexyl)phthalate	0.0017 - 0.0019		ND	
Dibenzofuran	0.372 - 255	3	ND	
Di-n-octyl phthalate	ND		ND	
Benzene	0.00722 - 0.0782	3	ND	
Ethylbenzene	0.183 - 2.91	1	ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW8A		RW9	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	0.0021 - 0.00431			
Chromium (mg/L)	0.00136 - 0.0018			
Lead (mg/L)	0.00418 - 0.0173	1		
Nickel (mg/L)	ND			
Acenaphthene	0.00346 - 0.00854		ND	
Acenaphthylene	0.00011 - 0.00012		ND	
Anthracene	0.0001 - 0.00017		ND	
Benzo (a) anthracene	0.00003		ND	
Benzo (a) pyrene	ND		ND	
Benzo (b) fluoranthene	ND		ND	
Benzo (k) fluoranthene	ND		ND	
Carbazole	ND		ND	
Chrysene	0.00003		ND	
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	0.00021 - 0.00035		ND	
Fluorene	0.00094 - 0.0026		ND	
Indeno (1,2,3-cd) pyrene	ND		ND	
2-Methylnaphthalene	0.00008 - 0.00069		ND	
Naphthalene	0.0001 - 0.00291	1	ND	
Phenanthrene	0.00055 - 0.00211		ND	
Pyrene	0.00013 - 0.00016		ND	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	0.0129	1	ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		ND	
Dibenzofuran	0.00053 - 0.0018	1	ND	
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW10		RW11	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	NA		NA	
Chromium (mg/L)	NA		NA	
Lead (mg/L)	NA		NA	
Nickel (mg/L)	NA		NA	
Acenaphthene	ND		0.0416 - 0.0749	2
Acenaphthylene	ND		0.0056 - 0.0189	
Anthracene	ND		0.00165 - 0.02	
Benzo (a) anthracene	ND		0.0373 - 0.0439	2
Benzo (a) pyrene	ND		0.0228 - 0.0428	2
Benzo (b) fluoranthene	ND		0.0314 - 0.0816	2
Benzo (k) fluoranthene	ND		0.0141 - 0.0349	2
Carbazole	ND		0.0021	
Chrysene	ND		0.0304 - 0.0324	2
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	ND		0.00539 - 0.156	2
Fluorene	ND		0.00784 - 0.0202	
Indeno (1,2,3-cd) pyrene	ND		ND	
2-Methylnaphthalene	ND		ND	
Naphthalene	ND		ND	
Phenanthrene	ND		0.0133 - 0.071	
Pyrene	ND		0.0718 - 0.0792	2
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		ND	
Dibenzofuran	ND		0.00363 - 0.0109	2
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW12		RW13	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	NA		NA	
Chromium (mg/L)	NA		NA	
Lead (mg/L)	NA		NA	
Nickel (mg/L)	NA		NA	
Acenaphthene	0.035 - 0.0537	1	ND	
Acenaphthylene	ND		ND	
Anthracene	0.00111 - 0.00127		ND	
Benzo (a) anthracene	ND		ND	
Benzo (a) pyrene	ND		0.00559	1
Benzo (b) fluoranthene	ND		0.00844	1
Benzo (k) fluoranthene	ND		0.00885	1
Carbazole	ND		ND	
Chrysene	ND		ND	
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	0.00126 - 0.00259		ND	
Fluorene	0.0177 - 0.0273		ND	
Indeno (1,2,3-cd) pyrene	ND		0.0054	1
2-Methylnaphthalene	ND		ND	
Naphthalene	ND		ND	
Phenanthrene	0.00188 - 0.00724		ND	
Pyrene	ND		ND	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	0.00491		ND	
Dibenzofuran	ND		ND	
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW35		RW36	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	NA		NA	
Chromium (mg/L)	NA		NA	
Lead (mg/L)	NA		NA	
Nickel (mg/L)	NA		NA	
Acenaphthene	0.101	1	0.0339	
Acenaphthylene	ND		ND	
Anthracene	ND		ND	
Benzo (a) anthracene	ND		ND	
Benzo (a) pyrene	ND		ND	
Benzo (b) fluoranthene	ND		ND	
Benzo (k) fluoranthene	ND		ND	
Carbazole	ND		ND	
Chrysene	ND		ND	
Dibenz (a,h) anthracene	ND		ND	
Fluoranthene	ND		ND	
Fluorene	0.0363	1	0.0124	
Indeno (1,2,3-cd) pyrene	ND		ND	
2-Methylnaphthalene	ND		ND	
Naphthalene	ND		ND	
Phenanthrene	ND		ND	
Pyrene	ND		ND	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	ND		ND	
2,4-Dinitrophenol	ND		ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		ND	
Bis(2-ethylhexyl)phthalate	ND		ND	
Dibenzofuran	ND		ND	
Di-n-octyl phthalate	ND		ND	
Benzene	ND		ND	
Ethylbenzene	ND		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	RW37		T1	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	NA		0.00414 - 0.00416	
Chromium (mg/L)	NA		0.00153 - 0.00406	
Lead (mg/L)	NA		0.00112 - 0.00449	
Nickel (mg/L)	NA		ND	
Acenaphthene	9.99	1	0.00161 - 0.722	1
Acenaphthylene	ND		ND	
Anthracene	1.71	1	0.00134 - 0.275	1
Benzo (a) anthracene	1.79	1	0.00192 - 0.81	5
Benzo (a) pyrene	0.351	1	0.0012 - 0.491	6
Benzo (b) fluoranthene	0.633	1	0.00196 - 0.713	6
Benzo (k) fluoranthene	0.193	1	0.00534 - 0.347	4
Carbazole	2.37		0.00148	
Chrysene	0.831	1	0.00168 - 0.75	3
Dibenz (a,h) anthracene	ND		0.00221	1
Fluoranthene	10.7	1	0.00215 - 2.57	3
Fluorene	6.72	1	0.00129 - 0.563	2
Indeno (1,2,3-cd) pyrene	ND		0.0036 - 0.14	2
2-Methylnaphthalene	9.65	1	0.232	1
Naphthalene	49.6	1	0.0261 - 0.205	2
Phenanthrene	28.8		0.0235 - 1.76	
Pyrene	7.8	1	0.00219 - 2.96	5
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	6.66	1	ND	
2,4-Dinitrophenol	ND		0.00523 - 0.00808	1
2-Methylphenol	1.52	1	ND	
3 & 4-Methylphenol	2.31	1	ND	
4-Chloro-3-Methylphenol	ND		ND	
Pentachlorophenol	ND		0.00607	1
Bis(2-ethylhexyl)phthalate	ND		0.00167	
Dibenzofuran	5.86	1	0.162	1
Di-n-octyl phthalate	ND		0.0269	1
Benzene	0.075	1	ND	
Ethylbenzene	0.0665		ND	

Table L-5
Summary of Organic Analytical Results By Well - 2020 to 2023
Cavenham Fores Industries, LLC
Mobile, Alabama

ANALYTE	T2		UG2	
	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES	CONCENTRATION RANGE (mg/L)	NUMBER OF GWPS EXCEEDANCES
Arsenic (mg/L)	0.00246		ND	
Chromium (mg/L)	0.00185 - 0.0223		ND	
Lead (mg/L)	ND		0.00129	
Nickel (mg/L)	ND		ND	
Acenaphthene	0.0525 - 0.574		0.00004 - 0.00008	
Acenaphthylene	0.00483 - 0.0146		ND	
Anthracene	0.0159 - 0.0724	6	0.00004	
Benzo (a) anthracene	0.0121 - 0.111	6	ND	
Benzo (a) pyrene	0.00569 - 0.0354	5	0.00029	1
Benzo (b) fluoranthene	0.0107 - 0.054	5	0.00034	1
Benzo (k) fluoranthene	0.00415 - 0.0205	4	0.00024	
Carbazole	0.00876 - 0.115		ND	
Chrysene	0.0132 - 0.116	3	0.00003	
Dibenz (a,h) anthracene	0.00091 - 0.00507	3	ND	
Fluoranthene	0.0457 - 0.721	4	0.00004 - 0.00011	
Fluorene	0.109 - 0.314	6	0.00004 - 0.00005	
Indeno (1,2,3-cd) pyrene	0.002 - 0.0131	3	0.00026	1
2-Methylnaphthalene	0.00596 - 0.167	6	0.00005 - 0.0001	
Naphthalene	0.0339 - 0.197	5	0.00013 - 0.0002	
Phenanthrene	0.014 - 0.641		0.00007 - 0.00024	
Pyrene	0.0283 - 0.314	7	0.00003 - 0.00009	
2,4,6-Trichlorophenol	ND		ND	
2,4-Dimethylphenol	0.00899 - 0.0157		ND	
2,4-Dinitrophenol	0.00818	1	ND	
2-Methylphenol	ND		ND	
3 & 4-Methylphenol	ND		ND	
4-Chloro-3-Methylphenol	0.00118 - 0.0017		ND	
Pentachlorophenol	0.006	1	ND	
Bis(2-ethylhexyl)phthalate	0.00177 - 0.0588	1	ND	
Dibenzofuran	0.0599 - 0.208	6	ND	
Di-n-octyl phthalate	ND		ND	
Benzene	0.0071	1	ND	
Ethylbenzene	0.00623 - 0.0301		ND	

ATTACHMENT M

GROUNDWATER MONITORING

LABORATORY REPORTS

(1-1-20 to 12-31-23)

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 24, 2020

Ethan Allen

Work Order # : 2003577

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/31/2020 09:00. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/T-1	2003577-01	Water	03/30/2020 09:00	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/RW-10	2003577-02	Water	03/30/2020 09:15	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/RW-4	2003577-03	Water	03/30/2020 09:50	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/RW-5	2003577-04	Water	03/30/2020 10:06	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/E-1	2003577-05	Water	03/30/2020 10:44	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/RW-3A	2003577-06	Water	03/30/2020 12:30	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/RC-3	2003577-07	Water	03/30/2020 12:44	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/GC-Sump	2003577-08	Water	03/30/2020 13:00	*Jeff Gonsoulin*	03/31/2020 09:00
Mobile/RC-2	2003577-09	Water	03/30/2020 13:30	*Jeff Gonsoulin*	03/31/2020 09:00
Trip Blank TBV#6393	2003577-10	Water	03/30/2020 09:00	*Micro Methods*	03/31/2020 09:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Sample Receipt Conditions

Date/Time Received: 3/31/2020 9:00:00AM
Received by: Stella S Kleist
Date/Time Logged: 3/31/2020 9:40:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Stella S Kleist
Receipt Temperature: 1.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Cooler ID: client cooler #2

Receipt Temperature: -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Cooler ID: Client cooler #3

Receipt Temperature: 1.5 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 04/24/2020 13:45

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol, Di-n-octyl phthalate

0D01013-DUP1, 0D01013-BLK1, 2003577-01[Mobile/T-1], 2003577-02[Mobile/ RW-10], 2003577-07[Mobile/RC-3], 2003577-08[Mobile/GC-Sump], 2003577-09[Mobile/RC-2]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol, Di-n-octyl phthalate

0D01013-BS1, 0D01013-BSD1, 0D01013-MS1

CC-04 CCV exceeds acceptance limits. Results reported are estimated values.

Di-n-octyl phthalate

0D01013-BS1, 0D01013-BSD1

L1 LCS and/or LCSD Recovery Limit exceeded.

Di-n-octyl phthalate

0D01013-BS1, 0D01013-BSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Naphthalene

0D01013-MS1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5, Terphenyl-dl4

2003577-07[Mobile/RC-3], 2003577-09[Mobile/RC-2]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/T-1

2003577-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**4.56**	0.500	mg/L	1.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 10:36	SM 4110B 2011	
Nitrate as N	**2.00**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	**0.21**	0.21	"	"	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:15	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0D01023	ABT	04/01/2020 10:45	04/01/2020 15:29	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00112**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**24.0**	10.4	ug/L	1.0	0D01013	CRLV	04/01/2020 08:46	04/17/2020 16:48	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**22.3**	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	**20.5**	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/T-1

2003577-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	36.7	*35.2 %*	*13.3-115*		*0D01013*	CRLV	*04/01/2020 08:46*	"	"	
2-Fluorobiphenyl	25.3	*48.5 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	24.9	*23.9 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	17.7	*33.9 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	12.3	*11.8 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	19.0	*36.5 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 17:19	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	52.4	*105 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	43.5	*87.1 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	49.6	*99.2 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	48.7	*97.4 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-10

2003577-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**3.36**	0.500	mg/L	1.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 11:11	SM 4110B 2011	
Nitrate as N	**1.60**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:06	Lachat 10-107-06-1-I	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.5	ug/L	1.0	0D01013	CRLV	04/01/2020 08:46	04/17/2020 12:14	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	53.4	*51.0 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	31.1	*59.5 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	32.2	*30.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	22.8	*43.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	16.5	*15.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	26.7	*50.9 %*	*10-110*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-10

2003577-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 17:45	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	52.5	*105 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.2	*94.3 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	52.3	*105 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	53.9	*108 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-4

2003577-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0D02027	CRLV	04/02/2020 12:15	04/22/2020 14:35	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.127	*60.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.138	*65.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.254	*120 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**0.789**	0.500	mg/L	1.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 12:22	SM 4110B 2011	
Nitrate as N	**0.804**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:07	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0D01023	ABT	04/01/2020 10:45	04/01/2020 15:37	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00207**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-4

2003577-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	0D03005	CRLV	04/03/2020 08:51	04/21/2020 13:35	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	4.33	*41.8 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.57	*49.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.11	*30.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.00	*38.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.94	*18.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.78	*53.6 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0D03005	CRLV	"	04/21/2020 13:35	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	4.33	*41.8 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.11	*30.0 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.94	*18.7 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-4

2003577-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 18:12	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.0	*108 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.7	*91.4 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	47.2	*94.3 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.6	*93.1 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-5

2003577-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0D02027	CRLV	04/02/2020 12:15	04/22/2020 15:58	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.114	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.114	*55.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.187	*90.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**1.79**	0.500	mg/L	1.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 12:40	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:08	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0D01023	ABT	04/01/2020 10:45	04/01/2020 15:45	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-5

2003577-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	0D03005	CRLV	04/03/2020 08:51	04/21/2020 14:13	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.53	*63.3 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.85	*55.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.88	*37.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.43	*47.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.43	*23.6 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	3.25	*63.0 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0D03005	CRLV	"	04/21/2020 14:13	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.53	*63.3 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.88	*37.6 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.43	*23.6 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-5

2003577-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 19:31	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.7	*113 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.0	*92.1 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	48.7	*97.4 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	54.9	*110 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/E-1

2003577-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**8.00**	0.62	ug/L	10.0	0D02027	CRLV	04/02/2020 12:15	04/23/2020 09:02	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0718	*35.0 %*	*11.7-131*		"	CRLV	"	*04/22/2020 16:39*	"	
Nitrobenzene-d5	0.0821	*40.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.0308	*15.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**430**	10.0	mg/L	20.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 15:03	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	DLW	"	03/31/2020 12:58	"	
Ammonia as N	**13.4**	0.21	"	"	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:22	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0D01023	ABT	04/01/2020 10:45	04/01/2020 15:52	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00368**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/E-1

2003577-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**63.1**	52.1	ug/L	5.0	0D03005	CRLV	04/03/2020 08:51	04/23/2020 14:59	EPA 8270D	
Acenaphthylene	ND	10.4	"	1.0	"	CRLV	"	04/21/2020 15:29	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	**41.5**	26.0	"	5.0	"	CRLV	"	04/23/2020 14:59	"	
Fluorene	ND	10.4	"	1.0	"	CRLV	"	04/21/2020 15:29	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	**17.6**	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.63	*63.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.74	*52.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.27	*31.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.63	*50.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.01	*19.3 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.45	*47.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0D03005	CRLV	"	04/21/2020 15:29	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/E-1

2003577-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	6.63	*63.6 %*	*16.2-100*		*0D03005*	CRLV	*04/03/2020 08:51*	"	"	
2-Fluorophenol	3.27	*31.4 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	2.01	*19.3 %*	*16.1-100*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**16.9**	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 19:58	EPA 8260D	
Ethylbenzene	**14.8**	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	54.8	*110 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.6	*89.2 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	48.7	*97.5 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	46.7	*93.4 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-3A

2003577-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**0.96**	0.06	ug/L	1.0	0D02027	CRLV	04/02/2020 12:15	04/22/2020 17:20	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.107	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.139	*65.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.257	*120 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**11.9**	1.00	mg/L	2.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 15:21	SM 4110B 2011	
Nitrate as N	**1.44**	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**13.2**	0.21	"	1.0	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:23	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0D01023	ABT	04/01/2020 10:45	04/01/2020 16:00	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-3A

2003577-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.5	ug/L	1.0	0D03005	CRLV	04/03/2020 08:51	04/21/2020 16:07	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	7.51	*71.3 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.93	*55.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.54	*33.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.15	*59.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.22	*21.1 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.61	*49.6 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0D03005	CRLV	"	04/21/2020 16:07	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	7.51	*71.3 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.54	*33.6 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.22	*21.1 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RW-3A

2003577-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 20:25	EPA 8260D	
Ethylbenzene	**5.78**	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.8	*114 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.4	*94.8 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	51.3	*103 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	54.1	*108 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RC-3

2003577-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**436**	10.0	mg/L	20.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 15:39	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	DLW	"	03/31/2020 14:10	"	
Ammonia as N	**19.6**	0.21	"	"	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:24	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0D01023	ABT	04/01/2020 10:45	04/01/2020 16:07	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00212**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**601**	105	ug/L	10.0	0D01013	CRLV	04/01/2020 08:46	04/17/2020 19:40	EPA 8270D	
Acenaphthylene	ND	10.5	"	1.0	"	CRLV	"	04/17/2020 20:48	"	
Anthracene	**50.8**	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**68.7**	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**43.3**	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**24.2**	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	**219**	105	"	10.0	"	CRLV	"	04/17/2020 19:40	"	
4-Chloro-3-methylphenol	ND	105	"	"	"	CRLV	"	"	"	
Chrysene	**47.5**	10.5	"	1.0	"	CRLV	"	04/17/2020 20:48	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	**208**	105	"	10.0	"	CRLV	"	04/17/2020 19:40	"	
2,4-Dimethylphenol	ND	105	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	1.0	"	CRLV	"	04/17/2020 20:48	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**201**	105	"	10.0	"	CRLV	"	04/17/2020 19:40	"	
Fluorene	**293**	105	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	1.0	"	CRLV	"	04/17/2020 20:48	"	
2-Methylnaphthalene	**376**	105	"	10.0	"	CRLV	"	04/17/2020 19:40	"	
2-Methylphenol	**32.4**	10.5	"	1.0	"	CRLV	"	04/17/2020 20:48	"	
3 & 4-Methylphenol	**69.5**	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	**3720**	1050	"	100.0	"	CRLV	"	04/17/2020 17:56	"	
Pentachlorophenol	ND	10.5	"	1.0	"	CRLV	"	04/17/2020 20:48	"	
Phenanthrene	**574**	105	"	10.0	"	CRLV	"	04/17/2020 19:40	"	
Pyrene	**184**	105	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	1.0	"	CRLV	"	04/17/2020 20:48	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RC-3

2003577-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	44.5	*42.3 %*	*13.3-115*		*0D01013*	CRLV	*04/01/2020 08:46*	"	"	
2-Fluorobiphenyl	26.6	*50.6 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	29.6	*28.1 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.00	*%*	*10-103*		"	CRLV	"	*04/17/2020 19:40*	"	*SR06*
Phenol-d5	17.0	*16.2 %*	*10-105*		"	CRLV	"	*04/17/2020 20:48*	"	
Terphenyl-dl4	24.3	*46.1 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**25.2**	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 20:51	EPA 8260D	
Ethylbenzene	**58.8**	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	56.4	*113 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.3	*101 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	49.8	*99.6 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	51.8	*104 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/GC-Sump

2003577-08 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**221**	5.00	mg/L	10.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 16:15	SM 4110B 2011	
Nitrate as N	**10.8**	1.00	"	2.0	"	DLW	"	03/31/2020 15:57	"	
Ammonia as N	ND	0.21	"	1.0	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:25	Lachat 10-107-06-1-I	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	0D01013	CRLV	04/01/2020 08:46	04/17/2020 16:14	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	49.7	*47.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	26.7	*51.3 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	25.0	*24.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	18.8	*36.1 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	13.8	*13.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	14.0	*26.9 %*	*10-110*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/GC-Sump

2003577-08 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 21:18	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.8	*112 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.7	*93.3 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	45.7	*91.4 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.9	*104 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RC-2

2003577-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**152**	5.00	mg/L	10.0	0C31036	DLW	03/31/2020 10:36	03/31/2020 16:33	SM 4110B 2011	
Nitrate as N	**1.94**	0.500	"	1.0	"	DLW	"	03/31/2020 14:46	"	
Ammonia as N	**5.01**	0.21	"	"	0C30043	AKL	04/01/2020 08:31	04/01/2020 12:26	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0D01023	ABT	04/01/2020 10:45	04/01/2020 16:22	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00342**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**28.8**	10.5	ug/L	1.0	0D01013	CRLV	04/01/2020 08:46	04/17/2020 12:48	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Mobile/RC-2

2003577-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	39.3	*37.4 %*	*13.3-115*		*0D01013*	CRLV	*04/01/2020 08:46*	"	"	
2-Fluorobiphenyl	23.6	*44.8 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	26.6	*25.2 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	19.5	*37.0 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	14.5	*13.7 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	0.00	*%*	*10-110*		"	CRLV	"	"	"	*SR06*
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 21:44	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	53.3	*107 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.7	*93.4 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	50.7	*101 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	50.7	*101 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Trip Blank TBV#6393

2003577-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D13030	BSF	04/09/2020 08:00	04/09/2020 22:11	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.1	*112 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.3	*101 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	48.1	*96.3 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.2	*100 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D02027 - EPA 3510C DCN 4000 Rev 12											
Blank (0D02027-BLK1)											
Benzo (a) pyrene	4/22/20 12:31	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.150*		"	*0.200*		*75.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		"	*0.200*		*85.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.230*		"	*0.200*		*115*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D02027 - EPA 3510C DCN 4000 Rev 12											
LCS (0D02027-BS1)											
Benzo (a) pyrene	4/22/20 13:12	0.16	0.06	ug/L	0.200		80.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.130*		"	*0.200*		*65.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.120*		"	*0.200*		*60.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.280*		"	*0.200*		*140*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D02027 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0D02027-BSD1)											
Benzo (a) pyrene	4/22/20 13:53	0.21	0.06	ug/L	0.200		105	10-149	27.0	40	
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		"	*0.200*		*80.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.230*		"	*0.200*		*115*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D02027 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0D02027-DUP1)			**Source: 2003577-03**								
Benzo (a) pyrene	4/22/20 15:16	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.114*		*"*	*0.207*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.124*		*"*	*0.207*		*60.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.332*		*"*	*0.207*		*160*	*10-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C30043 - Default Prep GenChem											
Blank (0C30043-BLK1)											
Ammonia as N	4/1/20 12:00	ND	0.21	mg/L							
LCS (0C30043-BS1)											
Ammonia as N	4/1/20 11:42	5.31	0.21	mg/L	5.00		106	90-110			
LCS Dup (0C30043-BSD1)											
Ammonia as N	4/1/20 11:46	5.30	0.21	mg/L	5.00		106	90-110	0.188	10	
Matrix Spike (0C30043-MS1)			**Source: 2003577-01**								
Ammonia as N	4/1/20 12:16	4.80	0.21	mg/L	5.00	0.21	91.8	90-110			
Matrix Spike Dup (0C30043-MSD1)			**Source: 2003577-01**								
Ammonia as N	4/1/20 12:18	4.80	0.21	mg/L	5.00	0.21	91.8	90-110	0.00	10	
Batch 0C31036 - Default Prep GenChem											
Blank (0C31036-BLK1)											
Chloride	3/31/20 10:18	ND	0.500	mg/L							
Nitrate as N	3/31/20 10:18	ND	0.500	"							
LCS (0C31036-BS1)											
Chloride	3/31/20 9:42	2.86	0.500	mg/L	3.00		95.4	81.8-111			
Nitrate as N	3/31/20 9:42	2.18	0.500	"	2.26		96.5	81.1-113			
LCS Dup (0C31036-BSD1)											
Chloride	3/31/20 10:00	2.85	0.500	mg/L	3.00		95.0	81.8-111	0.455	20	
Nitrate as N	3/31/20 10:00	2.18	0.500	"	2.26		96.5	81.1-113	0.00	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C31036 - Default Prep GenChem											
Duplicate (0C31036-DUP1)			**Source: 2003577-02**								
Chloride	3/31/20 11:29	3.35	0.500	mg/L		3.36			0.358	20	
Nitrate as N	3/31/20 11:29	1.62	0.500	"		1.60			0.933	20	
Matrix Spike (0C31036-MS1)			**Source: 2003577-02**								
Chloride	3/31/20 11:47	33.4	0.500	mg/L	30.0	3.36	100	75.3-124			
Nitrate as N	3/31/20 11:47	8.30	0.500	"	6.78	1.60	98.8	58.5-131			
Matrix Spike Dup (0C31036-MSD1)			**Source: 2003577-02**								
Chloride	3/31/20 12:04	33.5	0.500	mg/L	30.0	3.36	100	75.3-124	0.176	20	
Nitrate as N	3/31/20 12:04	8.36	0.500	"	6.78	1.60	99.7	58.5-131	0.708	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D01023 - EPA 200.2 DCN 1017 Rev 9											
Blank (0D01023-BLK1)											
Arsenic [HHe]	4/1/20 14:15	ND	0.00200	mg/L							
Chromium [He]	4/1/20 14:15	ND	0.00100	"							
Lead [He]	4/1/20 14:15	ND	0.00100	"							
Nickel [He]	4/1/20 14:15	ND	0.0400	"							
LCS (0D01023-BS1)											
Arsenic [HHe]	4/1/20 14:22	0.097	0.00200	mg/L	0.100		96.7	85-115			
Chromium [He]	4/1/20 14:22	0.102	0.00100	"	0.100		102	85-115			
Lead [He]	4/1/20 14:22	0.098	0.00100	"	0.100		98.3	85-115			
Nickel [He]	4/1/20 14:22	0.101	0.0400	"	0.100		101	85-115			
LCS Dup (0D01023-BSD1)											
Arsenic [HHe]	4/1/20 14:30	0.098	0.00200	mg/L	0.100		97.7	85-115	1.04	20	
Chromium [He]	4/1/20 14:30	0.100	0.00100	"	0.100		100	85-115	1.67	20	
Lead [He]	4/1/20 14:30	0.098	0.00100	"	0.100		97.9	85-115	0.390	20	
Nickel [He]	4/1/20 14:30	0.100	0.0400	"	0.100		100	85-115	0.995	20	
Matrix Spike (0D01023-MS1)			**Source: 2003567-01**								
Arsenic [HHe]	4/1/20 15:07	0.101	0.00200	mg/L	0.100	0.001	100	70-130			
Chromium [He]	4/1/20 15:07	0.094	0.00100	"	0.100	0.002	92.0	70-130			
Lead [He]	4/1/20 15:07	0.106	0.00100	"	0.100	ND	106	70-130			
Nickel [He]	4/1/20 15:07	0.106	0.0400	"	0.100	0.016	90.6	70-130			
Matrix Spike Dup (0D01023-MSD1)			**Source: 2003567-01**								
Arsenic [HHe]	4/1/20 15:14	0.100	0.00200	mg/L	0.100	0.001	98.1	70-130	1.86	20	
Chromium [He]	4/1/20 15:14	0.092	0.00100	"	0.100	0.002	90.6	70-130	1.44	20	
Lead [He]	4/1/20 15:14	0.105	0.00100	"	0.100	ND	105	70-130	1.00	20	
Nickel [He]	4/1/20 15:14	0.104	0.0400	"	0.100	0.016	88.7	70-130	1.79	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D01013 - EPA 3510C DCN 4000 Rev 12											
Blank (0D01013-BLK1)											
Acenaphthene	4/15/20 9:15	ND	10.0	ug/L							
Acenaphthylene	4/15/20 9:15	ND	10.0	"							
Anthracene	4/15/20 9:15	ND	10.0	"							
Benzo (a) anthracene	4/15/20 9:15	ND	10.0	"							
Benzo (b) fluoranthene	4/15/20 9:15	ND	10.0	"							
Benzo (k) fluoranthene	4/15/20 9:15	ND	10.0	"							
Benzo (a) pyrene	4/15/20 9:15	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	4/15/20 9:15	ND	10.0	"							
Carbazole	4/15/20 9:15	ND	10.0	"							
4-Chloro-3-methylphenol	4/15/20 9:15	ND	10.0	"							
Chrysene	4/15/20 9:15	ND	10.0	"							
Dibenz (a,h) anthracene	4/15/20 9:15	ND	10.0	"							
Dibenzofuran	4/15/20 9:15	ND	10.0	"							
2,4-Dimethylphenol	4/15/20 9:15	ND	10.0	"							
2,4-Dinitrophenol	4/15/20 9:15	ND	10.0	"							
Di-n-octyl phthalate	4/15/20 9:15	ND	10.0	"							CC-01
Fluoranthene	4/15/20 9:15	ND	10.0	"							
Fluorene	4/15/20 9:15	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	4/15/20 9:15	ND	10.0	"							
2-Methylnaphthalene	4/15/20 9:15	ND	10.0	"							
2-Methylphenol	4/15/20 9:15	ND	10.0	"							
3 & 4-Methylphenol	4/15/20 9:15	ND	10.0	"							
Naphthalene	4/15/20 9:15	ND	10.0	"							
Pentachlorophenol	4/15/20 9:15	ND	10.0	"							
Phenanthrene	4/15/20 9:15	ND	10.0	"							
Pyrene	4/15/20 9:15	ND	10.0	"							
2,4,6-Trichlorophenol	4/15/20 9:15	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*61.6*		*"*	*100*		*61.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*30.9*		*"*	*50.0*		*61.7*	*14.7-104*			
Surrogate: 2-Fluorophenol		*48.0*		*"*	*100*		*48.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*27.6*		*"*	*50.0*		*55.1*	*10-103*			
Surrogate: Phenol-d5		*50.1*		*"*	*100*		*50.1*	*10-105*			
Surrogate: Terphenyl-dl4		*23.2*		*"*	*50.0*		*46.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D01013 - EPA 3510C DCN 4000 Rev 12											
LCS (0D01013-BS1)											
Acenaphthene	4/20/20 15:17	79.3	20.0	ug/L	100		79.3	45.5-108			
Acenaphthylene	4/20/20 15:17	71.7	20.0	"	100		71.7	46.4-114			
Anthracene	4/20/20 15:17	76.5	20.0	"	100		76.5	47-106			
Benzo (a) anthracene	4/20/20 15:17	74.9	20.0	"	100		74.9	50.8-105			
Benzo (b) fluoranthene	4/20/20 15:17	89.9	20.0	"	100		89.9	47-109			
Benzo (k) fluoranthene	4/20/20 15:17	84.8	20.0	"	100		84.8	44-111			
Benzo (a) pyrene	4/20/20 15:17	73.9	20.0	"	100		73.9	52.9-103			
Bis(2-ethylhexyl)phthalate	4/20/20 15:17	98.7	20.0	"	100		98.7	36.4-121			
Carbazole	4/20/20 15:17	59.5	20.0	"	100		59.5	25-172			
4-Chloro-3-methylphenol	4/20/20 15:17	65.5	20.0	"	100		65.5	46.4-108			
Chrysene	4/20/20 15:17	75.6	20.0	"	100		75.6	46.6-100			
Dibenz (a,h) anthracene	4/20/20 15:17	62.1	20.0	"	100		62.1	46.7-102			
Dibenzofuran	4/20/20 15:17	74.8	20.0	"	100		74.8	45.8-105			
2,4-Dimethylphenol	4/20/20 15:17	60.4	20.0	"	100		60.4	41.6-101			
2,4-Dinitrophenol	4/20/20 15:17	40.0	20.0	"	100		40.0	10-131			CC-03
Di-n-octyl phthalate	4/20/20 15:17	134	20.0	"	100		134	38.6-123			CC-04, L1
Fluoranthene	4/20/20 15:17	65.3	20.0	"	100		65.3	44.9-114			
Fluorene	4/20/20 15:17	74.1	20.0	"	100		74.1	45.6-107			
Indeno (1,2,3-cd) pyrene	4/20/20 15:17	60.1	20.0	"	100		60.1	45.8-104			
2-Methylnaphthalene	4/20/20 15:17	68.7	20.0	"	100		68.7	44.2-104			
2-Methylphenol	4/20/20 15:17	61.8	20.0	"	100		61.8	44.5-103			
3 & 4-Methylphenol	4/20/20 15:17	121	20.0	"	200		60.7	11-149			
Naphthalene	4/20/20 15:17	73.3	20.0	"	100		73.3	45-100			
Pentachlorophenol	4/20/20 15:17	46.8	20.0	"	100		46.8	17.4-124			
Phenanthrene	4/20/20 15:17	78.0	20.0	"	100		78.0	49.2-107			
Pyrene	4/20/20 15:17	79.4	20.0	"	100		79.4	31.7-124			
2,4,6-Trichlorophenol	4/20/20 15:17	68.7	20.0	"	100		68.7	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*56.4*		*"*	*100*		*56.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*33.4*		*"*	*50.0*		*66.8*	*14.7-104*			
Surrogate: 2-Fluorophenol		*60.9*		*"*	*100*		*60.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*32.4*		*"*	*50.0*		*64.7*	*10-103*			
Surrogate: Phenol-d5		*58.9*		*"*	*100*		*58.9*	*10-105*			
Surrogate: Terphenyl-dl4		*27.4*		*"*	*50.0*		*54.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D01013 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0D01013-BSD1)											
Acenaphthene	4/20/20 15:51	80.0	20.0	ug/L	100		80.0	45.5-108	0.829	40	
Acenaphthylene	4/20/20 15:51	69.3	20.0	"	100		69.3	46.4-114	3.29	40	
Anthracene	4/20/20 15:51	73.5	20.0	"	100		73.5	47-106	4.00	40	
Benzo (a) anthracene	4/20/20 15:51	77.4	20.0	"	100		77.4	50.8-105	3.23	40	
Benzo (b) fluoranthene	4/20/20 15:51	89.4	20.0	"	100		89.4	47-109	0.491	40	
Benzo (k) fluoranthene	4/20/20 15:51	83.3	20.0	"	100		83.3	44-111	1.69	40	
Benzo (a) pyrene	4/20/20 15:51	74.4	20.0	"	100		74.4	52.9-103	0.782	40	
Bis(2-ethylhexyl)phthalate	4/20/20 15:51	102	20.0	"	100		102	36.4-121	3.01	40	
Carbazole	4/20/20 15:51	58.8	20.0	"	100		58.8	25-172	1.18	40	
4-Chloro-3-methylphenol	4/20/20 15:51	63.9	20.0	"	100		63.9	46.4-108	2.44	40	
Chrysene	4/20/20 15:51	76.6	20.0	"	100		76.6	46.6-100	1.24	40	
Dibenz (a,h) anthracene	4/20/20 15:51	70.8	20.0	"	100		70.8	46.7-102	13.1	40	
Dibenzofuran	4/20/20 15:51	73.3	20.0	"	100		73.3	45.8-105	2.00	40	
2,4-Dimethylphenol	4/20/20 15:51	61.2	20.0	"	100		61.2	41.6-101	1.28	40	
2,4-Dinitrophenol	4/20/20 15:51	40.3	20.0	"	100		40.3	10-131	0.797	40	CC-03
Di-n-octyl phthalate	4/20/20 15:51	133	20.0	"	100		133	38.6-123	1.10	40	CC-04, L1
Fluoranthene	4/20/20 15:51	65.9	20.0	"	100		65.9	44.9-114	0.915	40	
Fluorene	4/20/20 15:51	74.2	20.0	"	100		74.2	45.6-107	0.162	40	
Indeno (1,2,3-cd) pyrene	4/20/20 15:51	69.1	20.0	"	100		69.1	45.8-104	13.9	40	
2-Methylnaphthalene	4/20/20 15:51	70.4	20.0	"	100		70.4	44.2-104	2.36	40	
2-Methylphenol	4/20/20 15:51	58.5	20.0	"	100		58.5	44.5-103	5.45	40	
3 & 4-Methylphenol	4/20/20 15:51	117	20.0	"	200		58.5	11-149	3.61	40	
Naphthalene	4/20/20 15:51	72.3	20.0	"	100		72.3	45-100	1.43	40	
Pentachlorophenol	4/20/20 15:51	42.7	20.0	"	100		42.7	17.4-124	9.21	40	
Phenanthrene	4/20/20 15:51	79.2	20.0	"	100		79.2	49.2-107	1.42	40	
Pyrene	4/20/20 15:51	72.2	20.0	"	100		72.2	31.7-124	9.53	40	
2,4,6-Trichlorophenol	4/20/20 15:51	67.9	20.0	"	100		67.9	41.7-110	1.11	40	
Surrogate: 2,4,6-Tribromophenol		*57.3*		*"*	*100*		*57.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.4*		*"*	*50.0*		*70.8*	*14.7-104*			
Surrogate: 2-Fluorophenol		*61.6*		*"*	*100*		*61.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*33.1*		*"*	*50.0*		*66.2*	*10-103*			
Surrogate: Phenol-d5		*59.7*		*"*	*100*		*59.7*	*10-105*			
Surrogate: Terphenyl-dl4		*23.9*		*"*	*50.0*		*47.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D01013 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0D01013-DUP1)			**Source: 2003540-04**								
Acenaphthene	4/20/20 14:43	43.4	10.6	ug/L		48.2			10.6	45	
Acenaphthylene	4/20/20 14:43	ND	10.6	"		ND				45	
Anthracene	4/20/20 14:43	ND	10.6	"		ND				45	
Benzo (a) anthracene	4/20/20 14:43	ND	10.6	"		ND				45	
Benzo (b) fluoranthene	4/20/20 14:43	ND	10.6	"		ND				45	
Benzo (k) fluoranthene	4/20/20 14:43	ND	10.6	"		ND				45	
Benzo (a) pyrene	4/20/20 14:43	ND	10.6	"		ND				45	
Bis(2-ethylhexyl)phthalate	4/20/20 14:43	ND	10.6	"		ND				45	
Carbazole	4/20/20 14:43	10.8	10.6	"		13.4			21.9	45	
4-Chloro-3-methylphenol	4/20/20 14:43	ND	10.6	"		ND				45	
Chrysene	4/20/20 14:43	ND	10.6	"		ND				45	
Dibenz (a,h) anthracene	4/20/20 14:43	ND	10.6	"		ND				45	
Dibenzofuran	4/20/20 14:43	11.7	10.6	"		11.9			1.34	45	
2,4-Dimethylphenol	4/20/20 14:43	18.4	10.6	"		23.5			24.1	45	
2,4-Dinitrophenol	4/20/20 14:43	ND	10.6	"		ND				45	CC-01
Di-n-octyl phthalate	4/20/20 14:43	ND	10.6	"		ND				45	CC-01
Fluoranthene	4/20/20 14:43	ND	10.6	"		ND				45	
Fluorene	4/20/20 14:43	ND	10.6	"		ND				45	
Indeno (1,2,3-cd) pyrene	4/20/20 14:43	ND	10.6	"		ND				45	
2-Methylnaphthalene	4/20/20 14:43	15.2	10.6	"		11.1			30.6	45	
2-Methylphenol	4/20/20 14:43	ND	10.6	"		ND				45	
3 & 4-Methylphenol	4/20/20 14:43	ND	10.6	"		ND				45	
Naphthalene	4/20/20 14:43	413	106	"		318			25.8	45	
Pentachlorophenol	4/20/20 14:43	ND	10.6	"		ND				45	
Phenanthrene	4/20/20 14:43	ND	10.6	"		ND				45	
Pyrene	4/20/20 14:43	ND	10.6	"		ND				45	
2,4,6-Trichlorophenol	4/20/20 14:43	ND	10.6	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*46.4*		*"*	*106*		*43.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*28.5*		*"*	*52.9*		*53.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*29.2*		*"*	*106*		*27.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*21.0*		*"*	*52.9*		*39.6*	*10-103*			
Surrogate: Phenol-d5		*16.7*		*"*	*106*		*15.8*	*10-105*			
Surrogate: Terphenyl-dl4		*32.0*		*"*	*52.9*		*60.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D01013 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (0D01013-MS1)			**Source: 2003540-04**								
Acenaphthene	4/20/20 13:34	120	21.1	ug/L	105	48.2	68.5	21.2-106			
Acenaphthylene	4/20/20 13:34	54.0	21.1	"	105	ND	51.3	23.7-113			
Anthracene	4/20/20 13:34	67.3	21.1	"	105	ND	63.9	32.7-100			
Benzo (a) anthracene	4/20/20 13:34	65.9	21.1	"	105	ND	62.6	35.6-101			
Benzo (b) fluoranthene	4/20/20 13:34	74.2	21.1	"	105	ND	70.5	38.4-100			
Benzo (k) fluoranthene	4/20/20 13:34	70.1	21.1	"	105	ND	66.6	29.6-107			
Benzo (a) pyrene	4/20/20 13:34	62.0	21.1	"	105	ND	58.9	32.7-102			
Bis(2-ethylhexyl)phthalate	4/20/20 13:34	95.3	21.1	"	105	ND	90.5	28.4-112			
Carbazole	4/20/20 13:34	71.4	21.1	"	105	13.4	55.1	24.9-167			
4-Chloro-3-methylphenol	4/20/20 13:34	49.7	21.1	"	105	ND	47.2	20.7-115			
Chrysene	4/20/20 13:34	67.1	21.1	"	105	ND	63.7	30.8-100			
Dibenz (a,h) anthracene	4/20/20 13:34	56.3	21.1	"	105	ND	53.5	32.3-103			
Dibenzofuran	4/20/20 13:34	79.4	21.1	"	105	11.9	64.1	29.1-105			
2,4-Dimethylphenol	4/20/20 13:34	83.7	21.1	"	105	23.5	57.2	15.6-114			
2,4-Dinitrophenol	4/20/20 13:34	47.6	21.1	"	105	ND	45.2	10-110			CC-03
Di-n-octyl phthalate	4/20/20 13:34	122	21.1	"	105	ND	116	19.2-118			CC-03
Fluoranthene	4/20/20 13:34	55.5	21.1	"	105	ND	52.8	31.9-106			
Fluorene	4/20/20 13:34	78.3	21.1	"	105	ND	74.3	28.1-104			
Indeno (1,2,3-cd) pyrene	4/20/20 13:34	55.8	21.1	"	105	ND	53.0	29.6-105			
2-Methylnaphthalene	4/20/20 13:34	63.6	21.1	"	105	11.1	49.8	18.5-106			
2-Methylphenol	4/20/20 13:34	41.4	21.1	"	105	ND	39.4	10-106			
3 & 4-Methylphenol	4/20/20 13:34	82.6	21.1	"	211	ND	39.2	10-139			
Naphthalene	4/20/20 13:34	549	211	"	105	318	219	17-100			M5
Pentachlorophenol	4/20/20 13:34	61.4	21.1	"	105	ND	58.4	10-119			
Phenanthrene	4/20/20 13:34	73.9	21.1	"	105	ND	70.2	34.8-106			
Pyrene	4/20/20 13:34	68.0	21.1	"	105	ND	64.6	10-127			
2,4,6-Trichlorophenol	4/20/20 13:34	59.0	21.1	"	105	ND	56.1	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*55.6*		*"*	*105*		*52.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*27.5*		*"*	*52.6*		*52.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*30.9*		*"*	*105*		*29.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*23.8*		*"*	*52.6*		*45.2*	*10-103*			
Surrogate: Phenol-d5		*17.3*		*"*	*105*		*16.4*	*10-105*			
Surrogate: Terphenyl-dl4		*12.6*		*"*	*52.6*		*23.9*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D03005 - EPA 3510C DCN 4000 Rev 12											
Blank (0D03005-BLK1)											
Acenaphthene	4/21/20 11:41	ND	10.0	ug/L							
Acenaphthylene	4/21/20 11:41	ND	10.0	"							
Anthracene	4/21/20 11:41	ND	10.0	"							
Benzo (a) anthracene	4/21/20 11:41	ND	10.0	"							
Benzo (b) fluoranthene	4/21/20 11:41	ND	10.0	"							
Benzo (k) fluoranthene	4/21/20 11:41	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	4/21/20 11:41	ND	10.0	"							
Carbazole	4/21/20 11:41	ND	10.0	"							
4-Chloro-3-methylphenol	4/21/20 11:41	ND	10.0	"							
Chrysene	4/21/20 11:41	ND	10.0	"							
Dibenz (a,h) anthracene	4/21/20 11:41	ND	10.0	"							
Dibenzofuran	4/21/20 11:41	ND	10.0	"							
2,4-Dimethylphenol	4/21/20 11:41	ND	10.0	"							
2,4-Dinitrophenol	4/21/20 11:41	ND	10.0	"							
Di-n-octyl phthalate	4/21/20 11:41	ND	10.0	"							
Fluoranthene	4/21/20 11:41	ND	10.0	"							
Fluorene	4/21/20 11:41	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	4/21/20 11:41	ND	10.0	"							
2-Methylnaphthalene	4/21/20 11:41	ND	10.0	"							
2-Methylphenol	4/21/20 11:41	ND	10.0	"							
3 & 4-Methylphenol	4/21/20 11:41	ND	10.0	"							
Naphthalene	4/21/20 11:41	ND	10.0	"							
Phenanthrene	4/21/20 11:41	ND	10.0	"							
Pyrene	4/21/20 11:41	ND	10.0	"							
2,4,6-Trichlorophenol	4/21/20 11:41	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*4.90*		*"*	*10.0*		*49.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.40*		*"*	*5.00*		*68.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.19*		*"*	*10.0*		*61.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.01*		*"*	*5.00*		*60.2*	*10-103*			
Surrogate: Phenol-d5		*5.81*		*"*	*10.0*		*58.1*	*10-105*			
Surrogate: Terphenyl-dl4		*3.74*		*"*	*5.00*		*74.8*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D03005 - EPA 3510C DCN 4000 Rev 12											
LCS (0D03005-BS1)											
Acenaphthene	4/21/20 12:19	6.79	10.0	ug/L	10.0		67.9	45.5-108			
Acenaphthylene	4/21/20 12:19	6.69	10.0	"	10.0		66.9	46.4-114			
Anthracene	4/21/20 12:19	7.12	10.0	"	10.0		71.2	47-106			
Benzo (a) anthracene	4/21/20 12:19	6.86	10.0	"	10.0		68.6	50.8-105			
Benzo (b) fluoranthene	4/21/20 12:19	7.05	10.0	"	10.0		70.5	47-109			
Benzo (k) fluoranthene	4/21/20 12:19	7.03	10.0	"	10.0		70.3	44-111			
Bis(2-ethylhexyl)phthalate	4/21/20 12:19	6.91	10.0	"	10.0		69.1	36.4-121			
Carbazole	4/21/20 12:19	7.00	10.0	"	10.0		70.0	25-172			
4-Chloro-3-methylphenol	4/21/20 12:19	7.53	10.0	"	10.0		75.3	46.4-108			
Chrysene	4/21/20 12:19	6.79	10.0	"	10.0		67.9	46.6-100			
Dibenz (a,h) anthracene	4/21/20 12:19	6.81	10.0	"	10.0		68.1	46.7-102			
Dibenzofuran	4/21/20 12:19	6.67	10.0	"	10.0		66.7	45.8-105			
2,4-Dimethylphenol	4/21/20 12:19	5.68	10.0	"	10.0		56.8	41.6-101			
2,4-Dinitrophenol	4/21/20 12:19	3.38	10.0	"	10.0		33.8	10-131			
Di-n-octyl phthalate	4/21/20 12:19	7.01	10.0	"	10.0		70.1	38.6-123			
Fluoranthene	4/21/20 12:19	7.19	10.0	"	10.0		71.9	44.9-114			
Fluorene	4/21/20 12:19	7.33	10.0	"	10.0		73.3	45.6-107			
Indeno (1,2,3-cd) pyrene	4/21/20 12:19	6.91	10.0	"	10.0		69.1	45.8-104			
2-Methylnaphthalene	4/21/20 12:19	6.50	10.0	"	10.0		65.0	44.2-104			
2-Methylphenol	4/21/20 12:19	6.87	10.0	"	10.0		68.7	44.5-103			
3 & 4-Methylphenol	4/21/20 12:19	14.7	10.0	"	20.0		73.7	11-149			
Naphthalene	4/21/20 12:19	6.58	10.0	"	10.0		65.8	45-100			
Phenanthrene	4/21/20 12:19	6.74	10.0	"	10.0		67.4	49.2-107			
Pyrene	4/21/20 12:19	6.59	10.0	"	10.0		65.9	31.7-124			
2,4,6-Trichlorophenol	4/21/20 12:19	6.90	10.0	"	10.0		69.0	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*7.35*		"	*10.0*		*73.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.37*		"	*5.00*		*67.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.78*		"	*10.0*		*67.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.68*		"	*5.00*		*73.6*	*10-103*			
Surrogate: Phenol-d5		*6.70*		"	*10.0*		*67.0*	*10-105*			
Surrogate: Terphenyl-dl4		*3.33*		"	*5.00*		*66.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D03005 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0D03005-BSD1)											
Acenaphthene	4/21/20 12:57	7.37	10.0	ug/L	10.0		73.7	45.5-108	8.19	40	
Acenaphthylene	4/21/20 12:57	7.32	10.0	"	10.0		73.2	46.4-114	8.99	40	
Anthracene	4/21/20 12:57	7.62	10.0	"	10.0		76.2	47-106	6.78	40	
Benzo (a) anthracene	4/21/20 12:57	7.55	10.0	"	10.0		75.5	50.8-105	9.58	40	
Benzo (b) fluoranthene	4/21/20 12:57	7.70	10.0	"	10.0		77.0	47-109	8.81	40	
Benzo (k) fluoranthene	4/21/20 12:57	7.86	10.0	"	10.0		78.6	44-111	11.1	40	
Bis(2-ethylhexyl)phthalate	4/21/20 12:57	7.44	10.0	"	10.0		74.4	36.4-121	7.39	40	
Carbazole	4/21/20 12:57	7.61	10.0	"	10.0		76.1	25-172	8.35	40	
4-Chloro-3-methylphenol	4/21/20 12:57	8.23	10.0	"	10.0		82.3	46.4-108	8.88	40	
Chrysene	4/21/20 12:57	7.24	10.0	"	10.0		72.4	46.6-100	6.41	40	
Dibenz (a,h) anthracene	4/21/20 12:57	7.26	10.0	"	10.0		72.6	46.7-102	6.40	40	
Dibenzofuran	4/21/20 12:57	7.30	10.0	"	10.0		73.0	45.8-105	9.02	40	
2,4-Dimethylphenol	4/21/20 12:57	5.40	10.0	"	10.0		54.0	41.6-101	5.05	40	
2,4-Dinitrophenol	4/21/20 12:57	3.58	10.0	"	10.0		35.8	10-131	5.75	40	
Di-n-octyl phthalate	4/21/20 12:57	8.09	10.0	"	10.0		80.9	38.6-123	14.3	40	
Fluoranthene	4/21/20 12:57	7.86	10.0	"	10.0		78.6	44.9-114	8.90	40	
Fluorene	4/21/20 12:57	8.13	10.0	"	10.0		81.3	45.6-107	10.3	40	
Indeno (1,2,3-cd) pyrene	4/21/20 12:57	7.29	10.0	"	10.0		72.9	45.8-104	5.35	40	
2-Methylnaphthalene	4/21/20 12:57	7.05	10.0	"	10.0		70.5	44.2-104	8.12	40	
2-Methylphenol	4/21/20 12:57	6.91	10.0	"	10.0		69.1	44.5-103	0.581	40	
3 & 4-Methylphenol	4/21/20 12:57	15.5	10.0	"	20.0		77.5	11-149	5.09	40	
Naphthalene	4/21/20 12:57	6.86	10.0	"	10.0		68.6	45-100	4.17	40	
Phenanthrene	4/21/20 12:57	7.22	10.0	"	10.0		72.2	49.2-107	6.88	40	
Pyrene	4/21/20 12:57	7.29	10.0	"	10.0		72.9	31.7-124	10.1	40	
2,4,6-Trichlorophenol	4/21/20 12:57	7.73	10.0	"	10.0		77.3	41.7-110	11.3	40	
Surrogate: 2,4,6-Tribromophenol		*7.69*		"	*10.0*		*76.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.42*		"	*5.00*		*68.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.65*		"	*10.0*		*66.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.64*		"	*5.00*		*72.8*	*10-103*			
Surrogate: Phenol-d5		*6.60*		"	*10.0*		*66.0*	*10-105*			
Surrogate: Terphenyl-dl4		*3.43*		"	*5.00*		*68.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D03005 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0D03005-DUP1)			**Source: 2003577-04**								
Acenaphthene	4/21/20 14:51	ND	10.4	ug/L		ND				45	
Acenaphthylene	4/21/20 14:51	ND	10.4	"		ND				45	
Anthracene	4/21/20 14:51	ND	10.4	"		ND				45	
Benzo (a) anthracene	4/21/20 14:51	ND	10.4	"		ND				45	
Benzo (b) fluoranthene	4/21/20 14:51	ND	10.4	"		ND				45	
Benzo (k) fluoranthene	4/21/20 14:51	ND	10.4	"		ND				45	
Bis(2-ethylhexyl)phthalate	4/21/20 14:51	ND	10.4	"		ND				45	
Carbazole	4/21/20 14:51	ND	10.4	"		ND				45	
4-Chloro-3-methylphenol	4/21/20 14:51	ND	10.4	"		ND				45	
Chrysene	4/21/20 14:51	ND	10.4	"		ND				45	
Dibenz (a,h) anthracene	4/21/20 14:51	ND	10.4	"		ND				45	
Dibenzofuran	4/21/20 14:51	ND	10.4	"		ND				45	
2,4-Dimethylphenol	4/21/20 14:51	ND	10.4	"		ND				45	
2,4-Dinitrophenol	4/21/20 14:51	ND	10.4	"		ND				45	
Di-n-octyl phthalate	4/21/20 14:51	ND	10.4	"		ND				45	
Fluoranthene	4/21/20 14:51	ND	10.4	"		ND				45	
Fluorene	4/21/20 14:51	ND	10.4	"		ND				45	
Indeno (1,2,3-cd) pyrene	4/21/20 14:51	ND	10.4	"		ND				45	
2-Methylnaphthalene	4/21/20 14:51	ND	10.4	"		ND				45	
2-Methylphenol	4/21/20 14:51	ND	10.4	"		ND				45	
3 & 4-Methylphenol	4/21/20 14:51	ND	10.4	"		ND				45	
Naphthalene	4/21/20 14:51	ND	10.4	"		ND				45	
Phenanthrene	4/21/20 14:51	ND	10.4	"		ND				45	
Pyrene	4/21/20 14:51	ND	10.4	"		ND				45	
2,4,6-Trichlorophenol	4/21/20 14:51	ND	10.4	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*6.68*		*"*	*10.4*		*64.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.86*		*"*	*5.21*		*55.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.60*		*"*	*10.4*		*34.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.70*		*"*	*5.21*		*51.8*	*10-103*			
Surrogate: Phenol-d5		*1.99*		*"*	*10.4*		*19.1*	*10-105*			
Surrogate: Terphenyl-dl4		*3.10*		*"*	*5.21*		*59.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D03005 - EPA 3510C DCN 4000 Rev 12											
Blank (0D03005-BLK1)											
Pentachlorophenol	4/21/20 11:41	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*4.90*		*"*	*10.0*		*49.0*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*3.40*		*"*	*5.00*		*68.0*	*26.4-100*			
Surrogate: 2-Fluorophenol		*6.19*		*"*	*10.0*		*61.9*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*3.01*		*"*	*5.00*		*60.2*	*20.6-100*			
Surrogate: Phenol-d5		*5.81*		*"*	*10.0*		*58.1*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*5.00*			*13.5-100*			
LCS (0D03005-BS1)											
Pentachlorophenol	4/21/20 12:19	6.29	1.00	ug/L	10.0		62.9	10-144			
Surrogate: 2,4,6-Tribromophenol		*7.35*		*"*	*10.0*		*73.5*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*3.37*		*"*	*5.00*		*67.4*	*26.4-100*			
Surrogate: 2-Fluorophenol		*6.78*		*"*	*10.0*		*67.8*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*3.68*		*"*	*5.00*		*73.6*	*20.6-100*			
Surrogate: Phenol-d5		*6.70*		*"*	*10.0*		*67.0*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*5.00*			*13.5-100*			
LCS Dup (0D03005-BSD1)											
Pentachlorophenol	4/21/20 12:57	6.82	1.00	ug/L	10.0		68.2	10-144	8.09	40	
Surrogate: 2,4,6-Tribromophenol		*7.69*		*"*	*10.0*		*76.9*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*3.42*		*"*	*5.00*		*68.4*	*26.4-100*			
Surrogate: 2-Fluorophenol		*6.65*		*"*	*10.0*		*66.5*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*3.64*		*"*	*5.00*		*72.8*	*20.6-100*			
Surrogate: Phenol-d5		*6.60*		*"*	*10.0*		*66.0*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*5.00*			*13.5-100*			
Duplicate (0D03005-DUP1)			**Source: 2003577-04**								
Pentachlorophenol	4/21/20 14:51	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*6.68*		*"*	*10.4*		*64.1*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*2.86*		*"*	*5.21*		*55.0*	*26.4-100*			
Surrogate: 2-Fluorophenol		*3.60*		*"*	*10.4*		*34.6*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*2.70*		*"*	*5.21*		*51.8*	*20.6-100*			
Surrogate: Phenol-d5		*1.99*		*"*	*10.4*		*19.1*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*5.21*			*13.5-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D13030 - EPA 5030B											
Blank (0D13030-BLK1)											
Benzene	4/9/20 15:59	ND	5.00	ug/L							
Ethylbenzene	4/9/20 15:59	ND	5.00	"							
Surrogate: Dibromofluoromethane		*57.2*		"	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.1*		"	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8		*55.4*		"	*50.0*		*111*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*57.9*		"	*50.0*		*116*	*70-130*			
LCS (0D13030-BS1)											
Benzene	4/9/20 16:26	17.0	5.00	ug/L	20.0		85.0	79.8-135			
Ethylbenzene	4/9/20 16:26	20.4	5.00	"	20.0		102	79.9-137			
Surrogate: Dibromofluoromethane		*53.3*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*45.5*		"	*50.0*		*91.0*	*70-130*			
Surrogate: Toluene-d8		*49.4*		"	*50.0*		*98.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.0*		"	*50.0*		*98.1*	*70-130*			
LCS Dup (0D13030-BSD1)											
Benzene	4/9/20 16:52	18.1	5.00	ug/L	20.0		90.7	79.8-135	6.55	30	
Ethylbenzene	4/9/20 16:52	18.9	5.00	"	20.0		94.3	79.9-137	7.85	30	
Surrogate: Dibromofluoromethane		*58.9*		"	*50.0*		*118*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.7*		"	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8		*51.1*		"	*50.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.3*		"	*50.0*		*103*	*70-130*			
Matrix Spike (0D13030-MS1)			**Source: 2003577-03**								
Benzene	4/9/20 18:38	22.6	5.00	ug/L	20.0	ND	113	83.5-141			
Ethylbenzene	4/9/20 18:38	27.9	5.00	"	20.0	ND	140	62.1-158			
Surrogate: Dibromofluoromethane		*59.8*		"	*50.0*		*120*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.5*		"	*50.0*		*98.9*	*70-130*			
Surrogate: Toluene-d8		*51.9*		"	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.6*		"	*50.0*		*105*	*70-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D13030 - EPA 5030B											
Matrix Spike Dup (0D13030-MSD1)			**Source: 2003577-03**								
Benzene	4/9/20 19:05	19.7	5.00	ug/L	20.0	ND	98.4	83.5-141	13.7	35	
Ethylbenzene	4/9/20 19:05	26.7	5.00	"	20.0	ND	134	62.1-158	4.50	35	
Surrogate: Dibromofluoromethane		*52.0*		*"*	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*46.4*		*"*	*50.0*		*92.8*	*70-130*			
Surrogate: Toluene-d8		*56.7*		*"*	*50.0*		*113*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*55.7*		*"*	*50.0*		*111*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/24/2020 13:45

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/24/2020 13:45

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2020*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2020*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/24/2020 13:45

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Kristy L. Pierce	KLP
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 200357M

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
x Normal __ Next Day* __ 2nd Day* __ Other*_____
*All rush order requests must be prior approved.
__ Phone __ Mail __ Fax __ Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR SAMPLING
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	CHLORIDE NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:									
T-1	3-30-20/9:00	W	7	G	X	X	X	X	X
RW-10	3-30-20/9:15	W	6	G	X	X		X	X
RW-4	3-30-20/9:50	W	11	G	X	X	X	X	X
RW-5	3-30-20/10:06	W	9	G	X	X	X	X	X
E-1	3-30-20/10:44	W	9	G	X	X	X	X	X
RW-3A	3-30-20/12:30	W	9	G	X	X	X	X	X
RC-3	3-30-20/12:44	W	7	G	X	X	X	X	X
GC SUMP	3-30-20/13:00	W	6	G	X	X		X	X
RC-2	3-30-20/13:30	W	9	G	X	X	X	X	X
TBV#6393	3-30-20/9:00	W	2						X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

All Temps are Corrected Values

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? (Y) N Thermometer# 4 Cooler # _____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: SK Sample ____ Blank X Cooler _____

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		ENS	3-31-20	9:00
Received by	Stella Kleist	Stella Kleist	MM	3-31-20	9:00
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
Client cooler #1 1.2°C
Client cooler #2 -0.1°C
Client cooler #3 1.5°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 08, 2020

Ethan Allen

Work Order # : 2003208

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/10/2020 16:23. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-2	2003208-01	Water	03/10/2020 10:40	*Jeff Gonsoulin*	03/10/2020 16:23
Mobile/T-2	2003208-02	Water	03/10/2020 10:56	*Jeff Gonsoulin*	03/10/2020 16:23
Mobile/B-25	2003208-03	Water	03/10/2020 14:17	*Jeff Gonsoulin*	03/10/2020 16:23
Trip Blank TBV#6383	2003208-04	Water	03/10/2020 10:40	*Micro Methods*	03/10/2020 16:23

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Sample Receipt Conditions

Date/Time Received: 3/10/2020 4:23:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 3/11/2020 8:58:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Stella S Kleist
Receipt Temperature: 1.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Cooler ID: client cooler #2

Receipt Temperature: 0.9 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:19

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Sample Receipt Comments-SSK:
Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found.

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:19

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

B-07 Possible Laboratory Contamination

Pentachlorophenol

0C16018-DUP1

HT-21 The sample was originally analyzed within the recommended hold time. Due to a QC issue or Result Check the sample was reanalyzed outside the recommended Hold Time.

Analyte & Samples(s) Qualified:

2003208-01RE1[Mobile/RW-2]

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

2003208-01[Mobile/RW-2]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

B-07 Possible Laboratory Contamination

Bis(2-ethylhexyl)phthalate

0C16032-DUP1

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

Benzo (b) fluoranthene, Carbazole

2003208-03[Mobile/B-25]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

Benzo (b) fluoranthene, Carbazole

0C16018-BS1, 0C16018-BSD1

M2 MS/MSD Recovery below acceptable limit.

Carbazole

0C16032-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Anthracene, Bis(2-ethylhexyl)phthalate

0C16018-DUP1, 0C16032-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:19

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

SR01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.

Terphenyl-dl4

2003208-01[Mobile/RW-2]

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

0C16032-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Terphenyl-dl4

0C16032-BLK1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/RW-2

2003208-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**8.82**	0.62	ug/L	10.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 09:48	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.103	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.195	*95.0 %*	*19.6-113*		"	CRLV	"	*03/17/2020 11:29*	"	
Terphenyl-dl4	0.410	*200 %*	*11.3-166*		"	CRLV	"	*03/18/2020 09:48*	"	*SR01*
Classical Chemistry Parameters										
Chloride	**48.5**	1.00	mg/L	2.0	0C12032	DLW	03/11/2020 12:04	03/11/2020 12:04	SM 4110B 2011	
Nitrate as N	**2.14**	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.10	"	1.0	0C17045	DLW	03/17/2020 08:40	03/17/2020 15:58	SM 4500-NH3D 2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00392**	0.00200	mg/L	1.0	0C12038	ABT	03/12/2020 08:30	03/12/2020 18:12	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00132**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/RW-2

2003208-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**129**	109	ug/L	10.0	0C16018	CRLV	03/16/2020 09:10	03/25/2020 13:42	EPA 8270D	
Acenaphthylene	ND	10.9	"	1.0	"	CRLV	"	03/19/2020 17:02	"	
Anthracene	**29.2**	24.0	"	10.0	"	CRLV	"	03/25/2020 13:42	"	
Benzo (a) anthracene	ND	10.9	"	1.0	"	CRLV	"	03/19/2020 17:02	"	
Benzo (b) fluoranthene	ND	10.9	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.9	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.9	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.9	"	"	"	CRLV	"	"	"	
Carbazole	**36.8**	36.5	"	10.0	"	CRLV	"	03/25/2020 13:42	"	
4-Chloro-3-methylphenol	ND	10.9	"	1.0	"	CRLV	"	03/19/2020 17:02	"	
Chrysene	ND	10.9	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.9	"	"	"	CRLV	"	"	"	
Dibenzofuran	**67.4**	65.6	"	10.0	"	CRLV	"	03/25/2020 13:42	"	
2,4-Dimethylphenol	ND	10.9	"	1.0	"	CRLV	"	03/19/2020 17:02	"	
2,4-Dinitrophenol	ND	10.9	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.9	"	"	"	CRLV	"	"	"	
Fluoranthene	**64.9**	54.6	"	10.0	"	CRLV	"	03/25/2020 13:42	"	
Fluorene	**94.9**	87.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.9	"	1.0	"	CRLV	"	03/19/2020 17:02	"	
2-Methylnaphthalene	ND	10.9	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.9	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.9	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.9	"	"	"	CRLV	"	"	"	
Phenanthrene	**137**	109	"	10.0	"	CRLV	"	03/25/2020 13:42	"	
Pyrene	**34.1**	32.8	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.9	"	1.0	"	CRLV	"	03/19/2020 17:02	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	23.3	*107 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	7.54	*69.0 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	9.08	*41.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	6.54	*59.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	5.72	*26.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	11.3	*103 %*	*10-110*	"	CRLV	"	"	"	
Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 17:02	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/RW-2

2003208-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	23.3	*107 %*	*16.2-100*		*0C16018*	CRLV	*03/16/2020 09:10*	"	"	*SR05*
2-Fluorophenol	9.08	*41.6 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	5.72	*26.2 %*	*16.1-100*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C24050	BSF	03/23/2020 08:00	03/23/2020 12:01	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	47.5	*94.9 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.3	*101 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	45.6	*91.1 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	47.6	*95.1 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/RW-2

2003208-01RE1 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										HT-21
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	03/24/2020 09:10	03/24/2020 20:48	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.57	*31.4 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.06	*14.6 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.78	*8.50 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/T-2

2003208-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**44.2**	1.00	mg/L	2.0	0C12032	DLW	03/11/2020 12:04	03/11/2020 12:22	SM 4110B 2011	
Nitrate as N	**6.28**	2.00	"	4.0	"	DLW	"	03/11/2020 13:54	"	
Ammonia as N	**2.25**	0.10	"	1.0	0C17045	DLW	03/17/2020 08:40	03/17/2020 15:58	SM 4500-NH3D 2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00246**	0.00200	mg/L	1.0	0C12038	ABT	03/12/2020 08:30	03/12/2020 18:20	EPA 200.8 Rev 5.4	
Chromium [He]	**0.0223**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**235**	51.0	ug/L	5.0	0C16032	CRLV	03/16/2020 11:00	04/02/2020 17:55	EPA 8270D	
Acenaphthylene	ND	10.2	"	1.0	"	CRLV	"	04/02/2020 12:12	"	
Anthracene	**72.4**	51.0	"	5.0	"	CRLV	"	04/02/2020 17:55	"	
Benzo (a) anthracene	**69.4**	10.2	"	1.0	"	CRLV	"	04/02/2020 12:12	"	
Benzo (b) fluoranthene	**45.7**	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**13.3**	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**23.1**	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	**115**	51.0	"	5.0	"	CRLV	"	04/02/2020 17:55	"	
4-Chloro-3-methylphenol	ND	10.2	"	1.0	"	CRLV	"	04/02/2020 12:12	"	
Chrysene	**46.4**	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	**116**	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**271**	51.0	"	5.0	"	CRLV	"	04/02/2020 17:55	"	
Fluorene	**160**	51.0	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	1.0	"	CRLV	"	04/02/2020 12:12	"	
2-Methylnaphthalene	**18.9**	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**58.9**	10.2	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	**147**	51.0	"	5.0	"	CRLV	"	04/02/2020 17:55	"	
Pyrene	**242**	51.0	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	1.0	"	CRLV	"	04/02/2020 12:12	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/T-2

2003208-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	64.1	*62.9 %*	*13.3-115*		*0C16032*	CRLV	*03/16/2020 11:00*	*04/02/2020 17:55*	"	
2-Fluorobiphenyl	36.7	*72.0 %*	*14.7-104*		"	CRLV	"	*04/02/2020 12:12*	"	
2-Fluorophenol	70.0	*68.6 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	40.6	*79.5 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	73.3	*71.8 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	25.5	*50.0 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C24050	BSF	03/23/2020 08:00	03/23/2020 12:28	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	49.9	*99.7 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.9	*91.9 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	46.1	*92.3 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	50.2	*100 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/B-25

2003208-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 00:10	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.125	*60.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.177	*85.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.0938	*45.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**500**	10.0	mg/L	20.0	0C12032	DLW	03/11/2020 11:16	03/11/2020 13:36	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	DLW	"	03/11/2020 11:16	"	
Ammonia as N	ND	0.10	"	"	0C17045	DLW	03/17/2020 08:40	03/17/2020 15:58	SM 4500-NH3D 2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C12038	ABT	03/12/2020 08:30	03/12/2020 18:27	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/B-25

2003208-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	03/19/2020 17:40	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	14.5	*69.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	5.25	*50.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	6.75	*32.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.99	*47.9 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	4.06	*19.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	7.29	*70.0 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 17:40	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	14.5	*69.6 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	6.75	*32.4 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	4.06	*19.5 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Mobile/B-25

2003208-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C24050	BSF	03/23/2020 08:00	03/23/2020 12:54	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	46.0	*92.0 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.1	*102 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	44.7	*89.4 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	41.5	*83.0 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Trip Blank TBV#6383

2003208-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C24050	BSF	03/23/2020 08:00	03/23/2020 13:21	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	53.2	*106 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.0	*90.0 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	44.9	*89.9 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.3	*98.6 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
Blank (0C17030-BLK1)											
Benzo (a) pyrene	3/17/20 21:25	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.160*		*"*	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		*"*	*0.200*		*85.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.150*		*"*	*0.200*		*75.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
LCS (0C17030-BS1)											
Benzo (a) pyrene	3/17/20 22:06	0.17	0.06	ug/L	0.200		85.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		"	*0.200*		*85.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.130*		"	*0.200*		*65.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C17030-BSD1)											
Benzo (a) pyrene	3/17/20 22:47	0.13	0.06	ug/L	0.200		65.0	10-149	26.7	40	
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		"	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.140*		"	*0.200*		*70.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C17030-DUP1)			**Source: 2003208-03**								
Benzo (a) pyrene	3/18/20 0:51	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.115*		*"*	*0.208*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.146*		*"*	*0.208*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0938*		*"*	*0.208*		*45.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C12032 - Default Prep GenChem											
Blank (0C12032-BLK1)											
Chloride	3/11/20 10:18	ND	0.500	mg/L							
Nitrate as N	3/11/20 10:18	ND	0.500	"							
LCS (0C12032-BS1)											
Chloride	3/11/20 9:42	2.86	0.500	mg/L	3.00		95.3	81.8-111			
Nitrate as N	3/11/20 9:42	2.26	0.500	"	2.26		99.9	81.1-113			
LCS Dup (0C12032-BSD1)											
Chloride	3/11/20 10:00	2.85	0.500	mg/L	3.00		94.9	81.8-111	0.456	20	
Nitrate as N	3/11/20 10:00	2.26	0.500	"	2.26		100	81.1-113	0.0885	20	
Duplicate (0C12032-DUP1)			**Source: 2003208-02**								
Chloride	3/11/20 12:40	41.1	1.00	mg/L		44.2			7.29	20	
Nitrate as N	3/11/20 14:18	6.59	2.00	"		6.28			4.85	20	
Matrix Spike (0C12032-MS1)			**Source: 2003208-02**								
Chloride	3/11/20 14:35	43.9	20.0	mg/L		44.2		75.3-124			
Nitrate as N	3/11/20 14:35	33.1	20.0	"	36.2	6.28	74.2	58.5-131			
Matrix Spike Dup (0C12032-MSD1)			**Source: 2003208-02**								
Chloride	3/11/20 14:53	43.0	20.0	mg/L		44.2		75.3-124	2.05	20	
Nitrate as N	3/11/20 14:53	34.4	20.0	"	36.2	6.28	77.8	58.5-131	3.79	20	
Batch 0C17045 - Default Prep GenChem											
Blank (0C17045-BLK1)											
Ammonia as N	3/17/20 15:58	ND	0.10	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17045 - Default Prep GenChem											
LCS (0C17045-BS1)											
Ammonia as N	3/17/20 15:58	4.19	0.10	mg/L	4.00		105	90-110			
LCS Dup (0C17045-BSD1)											
Ammonia as N	3/17/20 15:58	4.10	0.10	mg/L	4.00		103	90-110	2.17	15	
Duplicate (0C17045-DUP1)			**Source: 2003225-01**								
Ammonia as N	3/17/20 15:58	1.61	0.10	mg/L		1.53			5.10	15	
Matrix Spike (0C17045-MS1)			**Source: 2003225-01**								
Ammonia as N	3/17/20 15:58	6.09	0.10	mg/L	5.00	1.53	91.2	74.5-104			
Matrix Spike Dup (0C17045-MSD1)			**Source: 2003225-01**								
Ammonia as N	3/17/20 15:58	6.16	0.10	mg/L	5.00	1.53	92.6	74.5-104	1.14	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C12038 - EPA 200.2 DCN 1017 Rev 9											
Blank (0C12038-BLK1)											
Arsenic [HHe]	3/12/20 12:41	ND	0.00200	mg/L							
Chromium [He]	3/12/20 12:41	ND	0.00100	"							
Lead [He]	3/12/20 12:41	ND	0.00100	"							
Nickel [He]	3/12/20 12:41	ND	0.0400	"							
LCS (0C12038-BS1)											
Arsenic [HHe]	3/12/20 12:49	0.103	0.00200	mg/L	0.100		103	85-115			
Chromium [He]	3/12/20 12:49	0.097	0.00100	"	0.100		96.6	85-115			
Lead [He]	3/12/20 12:49	0.102	0.00100	"	0.100		102	85-115			
Nickel [He]	3/12/20 12:49	0.101	0.0400	"	0.100		101	85-115			
LCS Dup (0C12038-BSD1)											
Arsenic [HHe]	3/12/20 12:56	0.100	0.00200	mg/L	0.100		100	85-115	2.93	20	
Chromium [He]	3/12/20 12:56	0.096	0.00100	"	0.100		96.2	85-115	0.405	20	
Lead [He]	3/12/20 12:56	0.101	0.00100	"	0.100		101	85-115	1.23	20	
Nickel [He]	3/12/20 12:56	0.101	0.0400	"	0.100		101	85-115	0.621	20	
Matrix Spike (0C12038-MS1)			**Source: 2003164-01**								
Arsenic [HHe]	3/12/20 16:17	0.104	0.00200	mg/L	0.100	0.001	103	70-130			
Chromium [He]	3/12/20 16:17	0.092	0.00100	"	0.100	0.002	89.8	70-130			
Lead [He]	3/12/20 16:17	0.104	0.00100	"	0.100	ND	104	70-130			
Nickel [He]	3/12/20 16:17	0.116	0.0400	"	0.100	0.027	88.4	70-130			
Matrix Spike Dup (0C12038-MSD1)			**Source: 2003164-01**								
Arsenic [HHe]	3/12/20 16:25	0.106	0.00200	mg/L	0.100	0.001	105	70-130	2.15	20	
Chromium [He]	3/12/20 16:25	0.093	0.00100	"	0.100	0.002	91.5	70-130	1.78	20	
Lead [He]	3/12/20 16:25	0.107	0.00100	"	0.100	ND	107	70-130	2.19	20	
Nickel [He]	3/12/20 16:25	0.118	0.0400	"	0.100	0.027	91.0	70-130	2.26	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Blank (0C16018-BLK1)											
Acenaphthene	3/23/20 10:36	ND	10.0	ug/L							
Acenaphthylene	3/23/20 10:36	ND	10.0	"							
Anthracene	3/23/20 10:36	ND	10.0	"							
Benzo (a) anthracene	3/23/20 10:36	ND	10.0	"							
Benzo (b) fluoranthene	3/23/20 10:36	ND	10.0	"							
Benzo (k) fluoranthene	3/23/20 10:36	ND	10.0	"							
Benzo (a) pyrene	3/23/20 10:36	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/23/20 10:36	ND	10.0	"							
Carbazole	3/23/20 10:36	ND	10.0	"							
4-Chloro-3-methylphenol	3/23/20 10:36	ND	10.0	"							
Chrysene	3/23/20 10:36	ND	10.0	"							
Dibenz (a,h) anthracene	3/23/20 10:36	ND	10.0	"							
Dibenzofuran	3/23/20 10:36	ND	10.0	"							
2,4-Dimethylphenol	3/23/20 10:36	ND	10.0	"							
2,4-Dinitrophenol	3/23/20 10:36	ND	10.0	"							
Di-n-octyl phthalate	3/23/20 10:36	ND	10.0	"							
Fluoranthene	3/23/20 10:36	ND	10.0	"							
Fluorene	3/23/20 10:36	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/23/20 10:36	ND	10.0	"							
2-Methylnaphthalene	3/23/20 10:36	ND	10.0	"							
2-Methylphenol	3/23/20 10:36	ND	10.0	"							
3 & 4-Methylphenol	3/23/20 10:36	ND	10.0	"							
Naphthalene	3/23/20 10:36	ND	10.0	"							
Pentachlorophenol	3/23/20 10:36	ND	10.0	"							
Phenanthrene	3/23/20 10:36	ND	10.0	"							
Pyrene	3/23/20 10:36	ND	10.0	"							
2,4,6-Trichlorophenol	3/23/20 10:36	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*17.1*		*"*	*30.0*		*57.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*11.5*		*"*	*15.0*		*76.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*19.9*		*"*	*30.0*		*66.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*9.40*		*"*	*15.0*		*62.7*	*10-103*			
Surrogate: Phenol-d5		*19.9*		*"*	*30.0*		*66.3*	*10-105*			
Surrogate: Terphenyl-dl4		*12.2*		*"*	*15.0*		*81.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
LCS (0C16018-BS1)											
Acenaphthene	3/19/20 15:47	13.2	10.0	ug/L	20.0		65.9	45.5-108			
Acenaphthylene	3/19/20 15:47	12.9	10.0	"	20.0		64.4	46.4-114			
Anthracene	3/19/20 15:47	14.0	10.0	"	20.0		69.8	47-106			
Benzo (a) anthracene	3/19/20 15:47	13.6	10.0	"	20.0		67.9	50.8-105			
Benzo (b) fluoranthene	3/19/20 15:47	10.2	10.0	"	20.0		51.2	47-109			CC-03
Benzo (k) fluoranthene	3/19/20 15:47	11.2	10.0	"	20.0		56.2	44-111			
Benzo (a) pyrene	3/19/20 15:47	14.7	10.0	"	20.0		73.6	52.9-103			
Bis(2-ethylhexyl)phthalate	3/19/20 15:47	16.6	10.0	"	20.0		82.9	36.4-121			
Carbazole	3/19/20 15:47	13.5	10.0	"	20.0		67.5	25-172			CC-03
4-Chloro-3-methylphenol	3/19/20 15:47	13.0	10.0	"	20.0		65.1	46.4-108			
Chrysene	3/19/20 15:47	13.1	10.0	"	20.0		65.3	46.6-100			
Dibenz (a,h) anthracene	3/19/20 15:47	16.6	10.0	"	20.0		83.1	46.7-102			
Dibenzofuran	3/19/20 15:47	12.7	10.0	"	20.0		63.6	45.8-105			
2,4-Dimethylphenol	3/19/20 15:47	8.81	10.0	"	20.0		44.1	41.6-101			
2,4-Dinitrophenol	3/19/20 15:47	9.10	10.0	"	20.0		45.5	10-131			
Di-n-octyl phthalate	3/19/20 15:47	14.3	10.0	"	20.0		71.4	38.6-123			
Fluoranthene	3/19/20 15:47	12.5	10.0	"	20.0		62.5	44.9-114			
Fluorene	3/19/20 15:47	13.1	10.0	"	20.0		65.6	45.6-107			
Indeno (1,2,3-cd) pyrene	3/19/20 15:47	16.9	10.0	"	20.0		84.6	45.8-104			
2-Methylnaphthalene	3/19/20 15:47	12.5	10.0	"	20.0		62.4	44.2-104			
2-Methylphenol	3/19/20 15:47	11.2	10.0	"	20.0		56.0	44.5-103			
3 & 4-Methylphenol	3/19/20 15:47	23.8	10.0	"	40.0		59.5	11-149			
Naphthalene	3/19/20 15:47	12.4	10.0	"	20.0		61.9	45-100			
Pentachlorophenol	3/19/20 15:47	12.5	10.0	"	20.0		62.3	17.4-124			
Phenanthrene	3/19/20 15:47	13.3	10.0	"	20.0		66.7	49.2-107			
Pyrene	3/19/20 15:47	11.0	10.0	"	20.0		54.9	31.7-124			
2,4,6-Trichlorophenol	3/19/20 15:47	13.5	10.0	"	20.0		67.4	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*21.7*		*"*	*30.0*		*72.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*9.02*		*"*	*15.0*		*60.1*	*14.7-104*			
Surrogate: 2-Fluorophenol		*17.7*		*"*	*30.0*		*58.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*9.12*		*"*	*15.0*		*60.8*	*10-103*			
Surrogate: Phenol-d5		*17.9*		*"*	*30.0*		*59.8*	*10-105*			
Surrogate: Terphenyl-dl4		*9.54*		*"*	*15.0*		*63.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C16018-BSD1)											
Acenaphthene	3/23/20 11:14	10.9	10.0	ug/L	20.0		54.6	45.5-108	18.8	40	
Acenaphthylene	3/23/20 11:14	10.5	10.0	"	20.0		52.7	46.4-114	19.9	40	
Anthracene	3/23/20 11:14	12.2	10.0	"	20.0		60.9	47-106	13.6	40	
Benzo (a) anthracene	3/23/20 11:14	12.7	10.0	"	20.0		63.5	50.8-105	6.70	40	
Benzo (b) fluoranthene	3/23/20 11:14	13.7	10.0	"	20.0		68.3	47-109	28.7	40	CC-03
Benzo (k) fluoranthene	3/23/20 11:14	14.2	10.0	"	20.0		70.9	44-111	23.1	40	
Benzo (a) pyrene	3/23/20 11:14	13.6	10.0	"	20.0		68.0	52.9-103	7.98	40	
Bis(2-ethylhexyl)phthalate	3/23/20 11:14	12.2	10.0	"	20.0		60.9	36.4-121	30.5	40	
Carbazole	3/23/20 11:14	11.4	10.0	"	20.0		56.8	25-172	17.3	40	CC-03
4-Chloro-3-methylphenol	3/23/20 11:14	11.2	10.0	"	20.0		55.8	46.4-108	15.4	40	
Chrysene	3/23/20 11:14	13.0	10.0	"	20.0		65.0	46.6-100	0.460	40	
Dibenz (a,h) anthracene	3/23/20 11:14	13.1	10.0	"	20.0		65.4	46.7-102	23.8	40	
Dibenzofuran	3/23/20 11:14	10.8	10.0	"	20.0		53.9	45.8-105	16.4	40	
2,4-Dimethylphenol	3/23/20 11:14	10.2	10.0	"	20.0		51.1	41.6-101	14.8	40	
2,4-Dinitrophenol	3/23/20 11:14	9.21	10.0	"	20.0		46.1	10-131	1.20	40	
Di-n-octyl phthalate	3/23/20 11:14	13.5	10.0	"	20.0		67.4	38.6-123	5.76	40	
Fluoranthene	3/23/20 11:14	11.9	10.0	"	20.0		59.5	44.9-114	4.84	40	
Fluorene	3/23/20 11:14	11.3	10.0	"	20.0		56.3	45.6-107	15.2	40	
Indeno (1,2,3-cd) pyrene	3/23/20 11:14	13.0	10.0	"	20.0		65.1	45.8-104	26.1	40	
2-Methylnaphthalene	3/23/20 11:14	10.8	10.0	"	20.0		53.8	44.2-104	14.7	40	
2-Methylphenol	3/23/20 11:14	10.4	10.0	"	20.0		52.0	44.5-103	7.41	40	
3 & 4-Methylphenol	3/23/20 11:14	20.8	10.0	"	40.0		52.1	11-149	13.2	40	
Naphthalene	3/23/20 11:14	10.4	10.0	"	20.0		52.1	45-100	17.3	40	
Pentachlorophenol	3/23/20 11:14	9.56	10.0	"	20.0		47.8	17.4-124	26.3	40	
Phenanthrene	3/23/20 11:14	11.5	10.0	"	20.0		57.7	49.2-107	14.6	40	
Pyrene	3/23/20 11:14	11.1	10.0	"	20.0		55.6	31.7-124	1.36	40	
2,4,6-Trichlorophenol	3/23/20 11:14	10.9	10.0	"	20.0		54.4	41.7-110	21.4	40	
Surrogate: 2,4,6-Tribromophenol		*18.7*		*"*	*30.0*		*62.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*7.60*		*"*	*15.0*		*50.7*	*14.7-104*			
Surrogate: 2-Fluorophenol		*14.5*		*"*	*30.0*		*48.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*7.39*		*"*	*15.0*		*49.3*	*10-103*			
Surrogate: Phenol-d5		*14.8*		*"*	*30.0*		*49.4*	*10-105*			
Surrogate: Terphenyl-dl4		*8.29*		*"*	*15.0*		*55.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C16018-DUP1)			**Source: 2003208-01**								
Acenaphthene	3/25/20 14:58	136	109	ug/L		129			5.21	45	
Acenaphthylene	3/19/20 22:37	ND	10.9	"		ND				45	
Anthracene	3/19/20 22:37	15.3	10.9	"		29.2			62.3	45	P3
Benzo (a) anthracene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (b) fluoranthene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (k) fluoranthene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (a) pyrene	3/19/20 22:37	ND	10.9	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/19/20 22:37	ND	10.9	"		ND				45	
Carbazole	3/25/20 14:58	38.4	109	"		36.8			4.09	45	
4-Chloro-3-methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
Chrysene	3/19/20 22:37	ND	10.9	"		ND				45	
Dibenz (a,h) anthracene	3/19/20 22:37	ND	10.9	"		ND				45	
Dibenzofuran	3/25/20 14:58	60.5	109	"		67.4			10.8	45	
2,4-Dimethylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
2,4-Dinitrophenol	3/19/20 22:37	ND	10.9	"		ND				45	
Di-n-octyl phthalate	3/19/20 22:37	ND	10.9	"		ND				45	
Fluoranthene	3/25/20 14:58	80.1	109	"		64.9			20.9	45	
Fluorene	3/25/20 14:58	103	109	"		94.9			8.06	45	
Indeno (1,2,3-cd) pyrene	3/19/20 22:37	ND	10.9	"		ND				45	
2-Methylnaphthalene	3/19/20 22:37	ND	10.9	"		ND				45	
2-Methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
3 & 4-Methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
Naphthalene	3/19/20 22:37	ND	10.9	"		ND				45	
Pentachlorophenol	3/25/20 14:58	ND	10.9	"		ND				45	
Phenanthrene	3/25/20 14:58	169	109	"		137			20.8	45	
Pyrene	3/25/20 14:58	40.5	109	"		34.1			17.3	45	
2,4,6-Trichlorophenol	3/19/20 22:37	ND	10.9	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*21.2*		*"*	*21.7*		*97.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*6.21*		*"*	*10.9*		*57.1*	*14.7-104*			
Surrogate: 2-Fluorophenol		*7.91*		*"*	*21.7*		*36.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*5.50*		*"*	*10.9*		*50.6*	*10-103*			
Surrogate: Phenol-d5		*5.05*		*"*	*21.7*		*23.3*	*10-105*			
Surrogate: Terphenyl-dl4		*11.4*		*"*	*10.9*		*105*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Blank (0C16032-BLK1)											
Acenaphthene	4/1/20 8:59	ND	10.0	ug/L							
Acenaphthylene	4/1/20 8:59	ND	10.0	"							
Anthracene	4/1/20 8:59	ND	10.0	"							
Benzo (a) anthracene	4/1/20 8:59	ND	10.0	"							
Benzo (b) fluoranthene	4/1/20 8:59	ND	10.0	"							
Benzo (k) fluoranthene	4/1/20 8:59	ND	10.0	"							
Benzo (a) pyrene	4/1/20 8:59	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	4/1/20 8:59	ND	10.0	"							
Carbazole	4/1/20 8:59	ND	10.0	"							
4-Chloro-3-methylphenol	4/1/20 8:59	ND	10.0	"							
Chrysene	4/1/20 8:59	ND	10.0	"							
Dibenz (a,h) anthracene	4/1/20 8:59	ND	10.0	"							
Dibenzofuran	4/1/20 8:59	ND	10.0	"							
2,4-Dimethylphenol	4/1/20 8:59	ND	10.0	"							
2,4-Dinitrophenol	4/1/20 8:59	ND	10.0	"							
Di-n-octyl phthalate	4/1/20 8:59	ND	10.0	"							
Fluoranthene	4/1/20 8:59	ND	10.0	"							
Fluorene	4/1/20 8:59	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	4/1/20 8:59	ND	10.0	"							
2-Methylnaphthalene	4/1/20 8:59	ND	10.0	"							
2-Methylphenol	4/1/20 8:59	ND	10.0	"							
3 & 4-Methylphenol	4/1/20 8:59	ND	10.0	"							
Naphthalene	4/1/20 8:59	ND	10.0	"							
Pentachlorophenol	4/1/20 8:59	ND	10.0	"							
Phenanthrene	4/1/20 8:59	ND	10.0	"							
Pyrene	4/1/20 8:59	ND	10.0	"							
2,4,6-Trichlorophenol	4/1/20 8:59	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*109*		*"*	*100*		*109*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*37.2*		*"*	*50.0*		*74.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*69.6*		*"*	*100*		*69.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*41.1*		*"*	*50.0*		*82.2*	*10-103*			
Surrogate: Phenol-d5		*75.8*		*"*	*100*		*75.8*	*10-105*			
Surrogate: Terphenyl-dl4		*56.7*		*"*	*50.0*		*113*	*10-110*			*SR06*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
LCS (0C16032-BS1)											
Acenaphthene	4/1/20 10:41	76.0	20.0	ug/L	100		76.0	45.5-108			
Acenaphthylene	4/1/20 10:41	78.2	20.0	"	100		78.2	46.4-114			
Anthracene	4/1/20 10:41	70.5	20.0	"	100		70.5	47-106			
Benzo (a) anthracene	4/1/20 10:41	78.3	20.0	"	100		78.3	50.8-105			
Benzo (b) fluoranthene	4/1/20 10:41	81.5	20.0	"	100		81.5	47-109			
Benzo (k) fluoranthene	4/1/20 10:41	93.4	20.0	"	100		93.4	44-111			
Benzo (a) pyrene	4/1/20 10:41	83.2	20.0	"	100		83.2	52.9-103			
Bis(2-ethylhexyl)phthalate	4/1/20 10:41	63.5	20.0	"	100		63.5	36.4-121			
Carbazole	4/1/20 10:41	107	20.0	"	100		107	25-172			
4-Chloro-3-methylphenol	4/1/20 10:41	84.4	20.0	"	100		84.4	46.4-108			
Chrysene	4/1/20 10:41	78.7	20.0	"	100		78.7	46.6-100			
Dibenz (a,h) anthracene	4/1/20 10:41	80.6	20.0	"	100		80.6	46.7-102			
Dibenzofuran	4/1/20 10:41	71.3	20.0	"	100		71.3	45.8-105			
2,4-Dimethylphenol	4/1/20 10:41	63.2	20.0	"	100		63.2	41.6-101			
2,4-Dinitrophenol	4/1/20 10:41	57.3	20.0	"	100		57.3	10-131			
Di-n-octyl phthalate	4/1/20 10:41	81.9	20.0	"	100		81.9	38.6-123			
Fluoranthene	4/1/20 10:41	81.1	20.0	"	100		81.1	44.9-114			
Fluorene	4/1/20 10:41	78.2	20.0	"	100		78.2	45.6-107			
Indeno (1,2,3-cd) pyrene	4/1/20 10:41	77.4	20.0	"	100		77.4	45.8-104			
2-Methylnaphthalene	4/1/20 10:41	71.7	20.0	"	100		71.7	44.2-104			
2-Methylphenol	4/1/20 10:41	73.9	20.0	"	100		73.9	44.5-103			
3 & 4-Methylphenol	4/1/20 10:41	157	20.0	"	200		78.4	11-149			
Naphthalene	4/1/20 10:41	78.9	20.0	"	100		78.9	45-100			
Pentachlorophenol	4/1/20 10:41	62.4	20.0	"	100		62.4	17.4-124			
Phenanthrene	4/1/20 10:41	77.0	20.0	"	100		77.0	49.2-107			
Pyrene	4/1/20 10:41	71.0	20.0	"	100		71.0	31.7-124			
2,4,6-Trichlorophenol	4/1/20 10:41	76.7	20.0	"	100		76.7	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*79.6*		*"*	*100*		*79.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.2*		*"*	*50.0*		*70.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*67.2*		*"*	*100*		*67.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*39.4*		*"*	*50.0*		*78.8*	*10-103*			
Surrogate: Phenol-d5		*77.1*		*"*	*100*		*77.1*	*10-105*			
Surrogate: Terphenyl-dl4		*28.1*		*"*	*50.0*		*56.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0C16032-BSD1)											
Acenaphthene	4/1/20 11:16	76.7	20.0	ug/L	100		76.7	45.5-108	0.891	40	
Acenaphthylene	4/1/20 11:16	78.1	20.0	"	100		78.1	46.4-114	0.128	40	
Anthracene	4/1/20 11:16	70.4	20.0	"	100		70.4	47-106	0.142	40	
Benzo (a) anthracene	4/1/20 11:16	69.2	20.0	"	100		69.2	50.8-105	12.3	40	
Benzo (b) fluoranthene	4/1/20 11:16	84.4	20.0	"	100		84.4	47-109	3.42	40	
Benzo (k) fluoranthene	4/1/20 11:16	90.1	20.0	"	100		90.1	44-111	3.57	40	
Benzo (a) pyrene	4/1/20 11:16	81.5	20.0	"	100		81.5	52.9-103	2.11	40	
Bis(2-ethylhexyl)phthalate	4/1/20 11:16	66.0	20.0	"	100		66.0	36.4-121	3.89	40	
Carbazole	4/1/20 11:16	112	20.0	"	100		112	25-172	5.05	40	
4-Chloro-3-methylphenol	4/1/20 11:16	80.7	20.0	"	100		80.7	46.4-108	4.53	40	
Chrysene	4/1/20 11:16	75.0	20.0	"	100		75.0	46.6-100	4.89	40	
Dibenz (a,h) anthracene	4/1/20 11:16	76.3	20.0	"	100		76.3	46.7-102	5.48	40	
Dibenzofuran	4/1/20 11:16	71.9	20.0	"	100		71.9	45.8-105	0.754	40	
2,4-Dimethylphenol	4/1/20 11:16	68.4	20.0	"	100		68.4	41.6-101	7.87	40	
2,4-Dinitrophenol	4/1/20 11:16	58.1	20.0	"	100		58.1	10-131	1.32	40	
Di-n-octyl phthalate	4/1/20 11:16	84.4	20.0	"	100		84.4	38.6-123	2.98	40	
Fluoranthene	4/1/20 11:16	83.8	20.0	"	100		83.8	44.9-114	3.30	40	
Fluorene	4/1/20 11:16	69.6	20.0	"	100		69.6	45.6-107	11.6	40	
Indeno (1,2,3-cd) pyrene	4/1/20 11:16	76.1	20.0	"	100		76.1	45.8-104	1.72	40	
2-Methylnaphthalene	4/1/20 11:16	67.7	20.0	"	100		67.7	44.2-104	5.74	40	
2-Methylphenol	4/1/20 11:16	72.2	20.0	"	100		72.2	44.5-103	2.30	40	
3 & 4-Methylphenol	4/1/20 11:16	149	20.0	"	200		74.7	11-149	4.84	40	
Naphthalene	4/1/20 11:16	72.8	20.0	"	100		72.8	45-100	8.01	40	
Pentachlorophenol	4/1/20 11:16	64.0	20.0	"	100		64.0	17.4-124	2.50	40	
Phenanthrene	4/1/20 11:16	81.3	20.0	"	100		81.3	49.2-107	5.46	40	
Pyrene	4/1/20 11:16	68.1	20.0	"	100		68.1	31.7-124	4.20	40	
2,4,6-Trichlorophenol	4/1/20 11:16	71.8	20.0	"	100		71.8	41.7-110	6.68	40	
Surrogate: 2,4,6-Tribromophenol		*87.0*		*"*	*100*		*87.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.5*		*"*	*50.0*		*70.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*62.7*		*"*	*100*		*62.7*	*10-100*			
Surrogate: Nitrobenzene-d5		*37.5*		*"*	*50.0*		*75.1*	*10-103*			
Surrogate: Phenol-d5		*76.1*		*"*	*100*		*76.1*	*10-105*			
Surrogate: Terphenyl-dl4		*28.5*		*"*	*50.0*		*57.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0C16032-DUP1)			**Source: 2003250-01**								
Acenaphthene	4/1/20 10:07	ND	10.1	ug/L		ND				45	
Acenaphthylene	4/1/20 10:07	ND	10.1	"		ND				45	
Anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (a) anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (b) fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (k) fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (a) pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
Bis(2-ethylhexyl)phthalate	4/1/20 10:07	12.6	10.1	"		2.97			123	45	B-07, P3
Carbazole	4/1/20 10:07	ND	10.1	"		ND				45	
4-Chloro-3-methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
Chrysene	4/1/20 10:07	ND	10.1	"		ND				45	
Dibenz (a,h) anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Dibenzofuran	4/1/20 10:07	ND	10.1	"		ND				45	
2,4-Dimethylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
2,4-Dinitrophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Di-n-octyl phthalate	4/1/20 10:07	ND	10.1	"		ND				45	
Fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Fluorene	4/1/20 10:07	ND	10.1	"		ND				45	
Indeno (1,2,3-cd) pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
2-Methylnaphthalene	4/1/20 10:07	ND	10.1	"		ND				45	
2-Methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
3 & 4-Methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
Naphthalene	4/1/20 10:07	ND	10.1	"		ND				45	
Pentachlorophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Phenanthrene	4/1/20 10:07	ND	10.1	"		ND				45	
Pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
2,4,6-Trichlorophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*120*		*"*	*101*		*119*	*13.3-115*			*SR05*
Surrogate: 2-Fluorobiphenyl		*34.0*		*"*	*50.5*		*67.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*68.6*		*"*	*101*		*68.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*40.9*		*"*	*50.5*		*81.1*	*10-103*			
Surrogate: Phenol-d5		*70.9*		*"*	*101*		*70.2*	*10-105*			
Surrogate: Terphenyl-dl4		*52.5*		*"*	*50.5*		*104*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (0C16032-MS1)			**Source: 2003250-01**								
Acenaphthene	4/1/20 11:50	87.7	20.3	ug/L	102	ND	86.4	21.2-106			
Acenaphthylene	4/1/20 11:50	34.8	20.3	"	102	ND	34.3	23.7-113			
Anthracene	4/1/20 11:50	64.9	20.3	"	102	ND	63.9	32.7-100			
Benzo (a) anthracene	4/1/20 11:50	67.4	20.3	"	102	ND	66.3	35.6-101			
Benzo (b) fluoranthene	4/1/20 11:50	87.0	20.3	"	102	ND	85.7	38.4-100			
Benzo (k) fluoranthene	4/1/20 11:50	89.6	20.3	"	102	ND	88.3	29.6-107			
Benzo (a) pyrene	4/1/20 11:50	45.1	20.3	"	102	ND	44.4	32.7-102			
Bis(2-ethylhexyl)phthalate	4/1/20 11:50	71.7	20.3	"	102	2.97	67.7	28.4-112			
Carbazole	4/1/20 11:50	25.2	20.3	"	102	ND	24.8	24.9-167			M2
4-Chloro-3-methylphenol	4/1/20 11:50	91.2	20.3	"	102	ND	89.9	20.7-115			
Chrysene	4/1/20 11:50	77.7	20.3	"	102	ND	76.5	30.8-100			
Dibenz (a,h) anthracene	4/1/20 11:50	77.9	20.3	"	102	ND	76.7	32.3-103			
Dibenzofuran	4/1/20 11:50	83.1	20.3	"	102	ND	81.9	29.1-105			
2,4-Dimethylphenol	4/1/20 11:50	89.0	20.3	"	102	ND	87.7	15.6-114			
2,4-Dinitrophenol	4/1/20 11:50	67.7	20.3	"	102	ND	66.7	10-110			
Di-n-octyl phthalate	4/1/20 11:50	92.2	20.3	"	102	ND	90.8	19.2-118			
Fluoranthene	4/1/20 11:50	84.5	20.3	"	102	ND	83.3	31.9-106			
Fluorene	4/1/20 11:50	84.1	20.3	"	102	ND	82.8	28.1-104			
Indeno (1,2,3-cd) pyrene	4/1/20 11:50	68.6	20.3	"	102	ND	67.6	29.6-105			
2-Methylnaphthalene	4/1/20 11:50	78.4	20.3	"	102	ND	77.2	18.5-106			
2-Methylphenol	4/1/20 11:50	86.3	20.3	"	102	ND	85.0	10-106			
3 & 4-Methylphenol	4/1/20 11:50	175	20.3	"	203	ND	86.3	10-139			
Naphthalene	4/1/20 11:50	83.6	20.3	"	102	ND	82.4	17-100			
Pentachlorophenol	4/1/20 11:50	71.5	20.3	"	102	ND	70.4	10-119			
Phenanthrene	4/1/20 11:50	86.7	20.3	"	102	ND	85.4	34.8-106			
Pyrene	4/1/20 11:50	46.5	20.3	"	102	ND	45.8	10-127			
2,4,6-Trichlorophenol	4/1/20 11:50	85.1	20.3	"	102	ND	83.8	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*82.9*		"	*102*		*81.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*34.8*		"	*50.8*		*68.5*	*14.7-104*			
Surrogate: 2-Fluorophenol		*72.9*		"	*102*		*71.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*42.6*		"	*50.8*		*83.9*	*10-103*			
Surrogate: Phenol-d5		*68.0*		"	*102*		*67.0*	*10-105*			
Surrogate: Terphenyl-dl4		*25.6*		"	*50.8*		*50.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Blank (0C16018-BLK1)											
Pentachlorophenol	3/23/20 10:36	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*17.1*		*"*	*30.0*		*57.1*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*11.5*		*"*	*15.0*		*76.3*	*26.4-100*			
Surrogate: 2-Fluorophenol		*19.9*		*"*	*30.0*		*66.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*9.40*		*"*	*15.0*		*62.7*	*20.6-100*			
Surrogate: Phenol-d5		*19.9*		*"*	*30.0*		*66.3*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
LCS (0C16018-BS1)											
Pentachlorophenol	3/19/20 15:47	12.5	1.00	ug/L	20.0		62.3	10-144			
Surrogate: 2,4,6-Tribromophenol		*21.7*		*"*	*30.0*		*72.4*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*9.02*		*"*	*15.0*		*60.1*	*26.4-100*			
Surrogate: 2-Fluorophenol		*17.7*		*"*	*30.0*		*58.9*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*9.12*		*"*	*15.0*		*60.8*	*20.6-100*			
Surrogate: Phenol-d5		*17.9*		*"*	*30.0*		*59.8*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
LCS Dup (0C16018-BSD1)											
Pentachlorophenol	3/23/20 11:14	9.56	1.00	ug/L	20.0		47.8	10-144	26.3	40	
Surrogate: 2,4,6-Tribromophenol		*18.7*		*"*	*30.0*		*62.3*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*7.64*		*"*	*15.0*		*50.9*	*26.4-100*			
Surrogate: 2-Fluorophenol		*14.5*		*"*	*30.0*		*48.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*8.28*		*"*	*15.0*		*55.2*	*20.6-100*			
Surrogate: Phenol-d5		*14.8*		*"*	*30.0*		*49.4*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
Duplicate (0C16018-DUP1)			**Source: 2003208-01**								
Pentachlorophenol	3/19/20 22:37	4.25	1.00	ug/L		ND			200	45	B-07
Surrogate: 2,4,6-Tribromophenol		*21.2*		*"*	*21.7*		*97.7*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*0.337*		*"*	*10.9*		*3.10*	*26.4-100*			
Surrogate: 2-Fluorophenol		*7.91*		*"*	*21.7*		*36.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*0.239*		*"*	*10.9*		*2.20*	*20.6-100*			
Surrogate: Phenol-d5		*5.05*		*"*	*21.7*		*23.3*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*10.9*			*13.5-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24050 - EPA 5030B											
Blank (0C24050-BLK1)											
Benzene	3/23/20 9:36	ND	5.00	ug/L							
Ethylbenzene	3/23/20 9:36	ND	5.00	"							
Surrogate: Dibromofluoromethane		*54.4*		"	*50.0*		*109*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*56.3*		"	*50.0*		*113*	*70-130*			
Surrogate: Toluene-d8		*52.9*		"	*50.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.5*		"	*50.0*		*107*	*70-130*			
LCS (0C24050-BS1)											
Benzene	3/23/20 10:03	25.0	5.00	ug/L	20.0		125	79.8-135			
Ethylbenzene	3/23/20 10:03	21.5	5.00	"	20.0		107	79.9-137			
Surrogate: Dibromofluoromethane		*53.5*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*55.2*		"	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8		*46.1*		"	*50.0*		*92.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.8*		"	*50.0*		*97.7*	*70-130*			
LCS Dup (0C24050-BSD1)											
Benzene	3/23/20 10:29	22.5	5.00	ug/L	20.0		113	79.8-135	10.3	30	
Ethylbenzene	3/23/20 10:29	21.2	5.00	"	20.0		106	79.9-137	1.26	30	
Surrogate: Dibromofluoromethane		*52.9*		"	*50.0*		*106*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.2*		"	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8		*47.2*		"	*50.0*		*94.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*45.9*		"	*50.0*		*91.9*	*70-130*			
Duplicate (0C24050-DUP1)			**Source: 2003335-01**								
Benzene	3/23/20 16:04	135	5.00	ug/L		128			5.25	35	
Ethylbenzene	3/23/20 16:04	40.3	5.00	"		39.4			2.23	35	
Surrogate: Dibromofluoromethane		*53.1*		"	*50.0*		*106*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.4*		"	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8		*45.6*		"	*50.0*		*91.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*47.6*		"	*50.0*		*95.2*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

SM 4500-NH3D 2011 in Water

Ammonia as N	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:19

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2020*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2020*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:19

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Kristy L. Pierce	KLP
Sarah E. Tomek	SET
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2003308

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days

- x Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1st QTR 2020
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	CHLORIDE NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:									
RW-2	3-10-20/10:40	W	9	G	X	X	X	X	X
T-2	3-10-20/10:56	W	9	G	X	X	X	X	X
B-25	3-10-20/14:17	W	7	G	X	X	X	X	X
TBV# 6383	3-10-20/10:40	W	2	G					X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 4 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3-10-20	16:23
Received by	Sarah Tomek	Sarah Tomek	MM	3/10/2020	1623
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 1.2°c
client cooler #2 0.9°c

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 08, 2020

Ethan Allen

Work Order # : 2003241

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/11/2020 16:00. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-36	2003241-01	Water	03/11/2020 09:35	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/UG-2	2003241-02	Water	03/11/2020 10:06	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/RW-3B	2003241-03	Water	03/11/2020 10:30	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/RW-1	2003241-04	Water	03/11/2020 10:45	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/RW-35	2003241-05	Water	03/11/2020 13:30	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/RW-36	2003241-06	Water	03/11/2020 13:50	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/RW-37	2003241-07	Water	03/11/2020 14:10	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/RC-1	2003241-08	Water	03/11/2020 14:20	*Jeff Gonsoulin*	03/11/2020 16:00
Mobile/RC-1A	2003241-09	Water	03/11/2020 14:30	*Jeff Gonsoulin*	03/11/2020 16:00
Trip Blank TBV#6386	2003241-10	Water	03/11/2020 09:35	*Micro Methods*	03/11/2020 16:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Sample Receipt Conditions

Date/Time Received: 3/11/2020 4:00:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 3/12/2020 8:09:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Stella S Kleist
Receipt Temperature: 2.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Cooler ID: Client cooler #2

Receipt Temperature: 0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Cooler ID: Client cooler #3

Receipt Temperature: 0.9 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Cooler ID: Cooler #381

Receipt Temperature: 1.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:17

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Sample Receipt Comments-SSK:
Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found.

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 04/08/2020 13:17

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

B-07 Possible Laboratory Contamination

Pentachlorophenol

0C16018-DUP1

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

B-07 Possible Laboratory Contamination

Bis(2-ethylhexyl)phthalate

0C16032-DUP1

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

Benzo (b) fluoranthene, Bis(2-ethylhexyl)phthalate, Carbazole

2003241-01[Mobile/B-36], 2003241-02[Mobile/UG-2], 2003241-04[Mobile/RW-1], 2003241-07[Mobile/RW-37]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

Benzo (b) fluoranthene, Carbazole

0C16018-BS1, 0C16018-BSD1

M2 MS/MSD Recovery below acceptable limit.

Carbazole

0C16032-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Anthracene, Bis(2-ethylhexyl)phthalate

0C16018-DUP1, 0C16032-DUP1

SR01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.

Terphenyl-dl4

2003241-03[Mobile/RW-3B]

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

0C16032-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:17

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Terphenyl-dl4

0C16032-BLK1

SR17 CCV above acceptance limits. Surrogate recovery within acceptance limits.

Terphenyl-dl4

2003241-07[Mobile/RW-37]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/B-36

2003241-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 01:32	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.124	*60.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.165	*80.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.134	*65.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**70.5**	2.00	mg/L	4.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 17:03	SM 4110B 2011	
Nitrate as N	**2.36**	0.500	"	1.0	"	DLW	"	03/12/2020 11:59	"	
Ammonia as N	ND	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:03	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C13009	ABT	03/13/2020 10:15	03/16/2020 21:35	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00159**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.6	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	03/19/2020 18:17	EPA 8270D	
Acenaphthylene	ND	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.6	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/B-36

2003241-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Phenanthrene	ND	10.6	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	16.2	*76.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	6.21	*58.7 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	7.48	*35.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	5.84	*55.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	4.90	*23.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	6.12	*57.8 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 18:17	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	16.2	*76.4 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	7.48	*35.4 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	4.90	*23.2 %*	*16.1-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C23049	BSF	03/20/2020 08:00	03/20/2020 22:16	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	47.4	*94.8 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.4	*94.8 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	45.4	*90.8 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.2	*94.5 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/UG-2

2003241-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 02:14	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.128	*60.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.150	*70.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.128	*60.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**7.40**	0.500	mg/L	1.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 12:16	SM 4110B 2011	
Nitrate as N	**2.75**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:07	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C13009	ABT	03/13/2020 10:15	03/16/2020 21:43	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00129**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/UG-2

2003241-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.6	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	03/19/2020 18:54	EPA 8270D	
Acenaphthylene	ND	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.6	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	17.4	*81.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	6.52	*61.3 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	8.03	*37.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	6.03	*56.7 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	5.04	*23.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	5.41	*50.9 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 18:54	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	17.4	*81.6 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	8.03	*37.7 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	5.04	*23.7 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/UG-2

2003241-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C23049	BSF	03/20/2020 08:00	03/20/2020 22:43	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	48.4	*96.9 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	52.6	*105 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	52.8	*106 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	55.3	*111 %*	*70-130*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-3B

2003241-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**50.8**	6.22	ug/L	100.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 10:29	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.104	*50.0 %*	*11.7-131*		"	CRLV	"	*03/18/2020 09:06*	"	
Nitrobenzene-d5	0.207	*100 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.00	*%*	*11.3-166*		"	CRLV	"	*03/18/2020 10:29*	"	*SR01*
Classical Chemistry Parameters										
Chloride	**60.0**	1.00	mg/L	2.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 17:21	SM 4110B 2011	
Nitrate as N	**2.56**	0.500	"	1.0	"	DLW	"	03/12/2020 12:34	"	
Ammonia as N	ND	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:09	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C13009	ABT	03/13/2020 10:15	03/16/2020 21:50	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00735**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-3B

2003241-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**431**	408	ug/L	50.0	0C16018	CRLV	03/16/2020 09:10	03/25/2020 15:36	EPA 8270D	
Acenaphthylene	ND	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	
Anthracene	**87.9**	81.6	"	10.0	"	CRLV	"	03/25/2020 14:20	"	
Benzo (a) anthracene	**93.4**	91.8	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**65.1**	61.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**34.6**	30.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	
Carbazole	**52.9**	51.0	"	10.0	"	CRLV	"	03/25/2020 14:20	"	
4-Chloro-3-methylphenol	ND	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	
Chrysene	**73.6**	71.4	"	10.0	"	CRLV	"	03/25/2020 14:20	"	
Dibenz (a,h) anthracene	ND	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	
Dibenzofuran	**235**	204	"	50.0	"	CRLV	"	03/25/2020 15:36	"	
2,4-Dimethylphenol	ND	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**479**	459	"	50.0	"	CRLV	"	03/25/2020 15:36	"	
Fluorene	**346**	306	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**17.0**	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	
2-Methylnaphthalene	**231**	204	"	50.0	"	CRLV	"	03/25/2020 15:36	"	
2-Methylphenol	ND	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**581**	510	"	50.0	"	CRLV	"	03/25/2020 15:36	"	
Phenanthrene	**872**	510	"	"	"	CRLV	"	"	"	
Pyrene	**227**	204	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	1.0	"	CRLV	"	03/19/2020 19:31	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	10.1	*49.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	4.74	*46.5 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	5.35	*26.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.98	*48.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	3.41	*16.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	4.01	*39.3 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 19:31	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-3B

2003241-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	10.1	*49.4 %*	*16.2-100*		*0C16018*	CRLV	*03/16/2020 09:10*	"	"	
2-Fluorophenol	5.35	*26.2 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	3.41	*16.7 %*	*16.1-100*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 13:38	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	54.8	*110 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	52.0	*104 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	45.8	*91.7 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	51.2	*102 %*	*70-130*		"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-1

2003241-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**0.17**	0.06	ug/L	1.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 03:36	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.102	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.184	*90.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.0612	*30.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**26.4**	0.500	mg/L	1.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 12:52	SM 4110B 2011	
Nitrate as N	**1.31**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	**1.68**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:10	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00219**	0.00200	mg/L	1.0	0C13009	ABT	03/13/2020 10:15	03/16/2020 22:06	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00825**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-1

2003241-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.2	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	03/19/2020 20:08	EPA 8270D	
Acenaphthylene	ND	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	7.28	*35.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.74	*26.9 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	6.59	*32.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.65	*26.0 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	4.50	*22.1 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.95	*28.9 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 20:08	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	7.28	*35.7 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	6.59	*32.3 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	4.50	*22.1 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-1

2003241-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 14:05	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.5	*109 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.8	*102 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	44.8	*89.6 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.5	*103 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-35

2003241-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**29.7**	0.500	mg/L	1.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 13:10	SM 4110B 2011	
Nitrate as N	**1.35**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	**1.47**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:11	Lachat 10-107-06-1-I	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**101**	51.3	ug/L	5.0	0C16032	CRLV	03/16/2020 11:00	04/02/2020 14:30	EPA 8270D	
Acenaphthylene	ND	10.3	"	1.0	"	CRLV	"	04/02/2020 10:21	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**36.3**	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	99.4	*96.9 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	33.1	*64.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	63.9	*62.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	38.2	*74.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	69.1	*67.4 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	44.5	*86.9 %*	*10-110*	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-35

2003241-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 14:31	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	53.8	*108 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.6	*95.3 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	42.7	*85.3 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.5	*96.9 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-36

2003241-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**155**	5.00	mg/L	10.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 18:14	SM 4110B 2011	
Nitrate as N	**1.19**	0.500	"	1.0	"	DLW	"	03/12/2020 13:28	"	
Ammonia as N	**1.92**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:12	Lachat 10-107-06-1-I	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**33.9**	10.3	ug/L	1.0	0C16032	CRLV	03/16/2020 11:00	04/02/2020 09:47	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**12.4**	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	97.5	*94.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	30.1	*58.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	68.5	*66.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	35.3	*68.5 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	68.2	*66.1 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	42.2	*81.9 %*	*10-110*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-36

2003241-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 14:57	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	52.6	*105 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.5	*101 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	40.9	*81.8 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	44.9	*89.8 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-37

2003241-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**22.5**	0.500	mg/L	1.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 14:39	SM 4110B 2011	
Nitrate as N	**2.56**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	**0.80**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:13	Lachat 10-107-06-1-I	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**9990**	1050	ug/L	100.0	0C16032	CRLV	03/16/2020 11:00	04/02/2020 18:30	EPA 8270D	
Acenaphthylene	ND	105	"	10.0	"	CRLV	"	04/06/2020 16:41	"	
Anthracene	**1710**	1050	"	100.0	"	CRLV	"	04/02/2020 18:30	"	
Benzo (a) anthracene	**1790**	1050	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**633**	105	"	10.0	"	CRLV	"	04/06/2020 16:41	"	
Benzo (k) fluoranthene	**193**	105	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**351**	105	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	105	"	"	"	CRLV	"	"	"	CC-01
Carbazole	**2370**	1050	"	100.0	"	CRLV	"	04/02/2020 18:30	"	
4-Chloro-3-methylphenol	ND	105	"	10.0	"	CRLV	"	04/06/2020 16:41	"	
Chrysene	**831**	105	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	105	"	"	"	CRLV	"	"	"	
Dibenzofuran	**5860**	1050	"	100.0	"	CRLV	"	04/02/2020 18:30	"	
2,4-Dimethylphenol	**6660**	1050	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	105	"	10.0	"	CRLV	"	04/06/2020 16:41	"	
Di-n-octyl phthalate	ND	105	"	"	"	CRLV	"	"	"	
Fluoranthene	**10700**	1050	"	100.0	"	CRLV	"	04/02/2020 18:30	"	
Fluorene	**6720**	1050	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	105	"	10.0	"	CRLV	"	04/06/2020 16:41	"	
2-Methylnaphthalene	**9650**	1050	"	100.0	"	CRLV	"	04/02/2020 18:30	"	
2-Methylphenol	**1520**	1050	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	**2310**	1050	"	"	"	CRLV	"	"	"	
Naphthalene	**49600**	10500	"	1000.0	"	CRLV	"	04/07/2020 14:04	"	
Pentachlorophenol	ND	105	"	10.0	"	CRLV	"	04/06/2020 16:41	"	
Phenanthrene	**28800**	10500	"	1000.0	"	CRLV	"	04/07/2020 14:04	"	
Pyrene	**7800**	1050	"	100.0	"	CRLV	"	04/02/2020 18:30	"	
2,4,6-Trichlorophenol	ND	105	"	10.0	"	CRLV	"	04/06/2020 16:41	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RW-37

2003241-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	64.3	*61.4 %*	*13.3-115*		*0C16032*	CRLV	*03/16/2020 11:00*	"	"	
2-Fluorobiphenyl	35.4	*67.6 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	60.3	*57.6 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	27.4	*52.4 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	61.5	*58.7 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	31.0	*59.2 %*	*10-110*		"	CRLV	"	"	"	*SR17*
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**75.0**	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 15:23	EPA 8260D	
Ethylbenzene	**66.5**	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	54.9	*110 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.8	*93.6 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	45.9	*91.8 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	50.8	*102 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RC-1

2003241-08 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**201**	5.00	mg/L	10.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 18:32	SM 4110B 2011	
Nitrate as N	**3.06**	0.500	"	1.0	"	DLW	"	03/12/2020 14:57	"	
Ammonia as N	**7.34**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:14	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C13009	ABT	03/13/2020 10:15	03/16/2020 22:13	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	03/17/2020 15:25	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	03/16/2020 22:13	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RC-1

2003241-08 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**305**	105	ug/L	10.0	0C16032	CRLV	03/16/2020 11:00	04/02/2020 16:47	EPA 8270D	
Acenaphthylene	ND	105	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	1.0	"	CRLV	"	04/02/2020 11:38	"	
Benzo (a) anthracene	ND	105	"	10.0	"	CRLV	"	04/02/2020 16:47	"	
Benzo (b) fluoranthene	ND	10.5	"	1.0	"	CRLV	"	04/02/2020 11:38	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	105	"	10.0	"	CRLV	"	04/02/2020 16:47	"	
Carbazole	**392**	105	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	105	"	"	"	CRLV	"	"	"	
Chrysene	ND	105	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	1.0	"	CRLV	"	04/02/2020 11:38	"	
Dibenzofuran	**144**	105	"	10.0	"	CRLV	"	04/02/2020 16:47	"	
2,4-Dimethylphenol	**356**	105	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	105	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	1.0	"	CRLV	"	04/02/2020 11:38	"	
Fluoranthene	**15.3**	10.5	"	"	"	CRLV	"	"	"	
Fluorene	**146**	105	"	10.0	"	CRLV	"	04/02/2020 16:47	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	1.0	"	CRLV	"	04/02/2020 11:38	"	
2-Methylnaphthalene	**254**	105	"	10.0	"	CRLV	"	04/02/2020 16:47	"	
2-Methylphenol	ND	10.5	"	1.0	"	CRLV	"	04/02/2020 11:38	"	
3 & 4-Methylphenol	**61.2**	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	**23800**	10500	"	1000.0	"	CRLV	"	04/07/2020 13:27	"	
Pentachlorophenol	ND	10.5	"	1.0	"	CRLV	"	04/02/2020 11:38	"	
Phenanthrene	**133**	105	"	10.0	"	CRLV	"	04/02/2020 16:47	"	
Pyrene	ND	105	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	105	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	86.0	*81.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	29.6	*56.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	73.3	*69.6 %*	*10-100*	"	CRLV	"	*04/02/2020 11:38*	"	
Nitrobenzene-d5	22.4	*42.6 %*	*10-103*	"	CRLV	"	*04/02/2020 16:47*	"	
Phenol-d5	79.7	*75.7 %*	*10-105*	"	CRLV	"	*04/02/2020 11:38*	"	
Terphenyl-dl4	9.16	*17.4 %*	*10-110*	"	CRLV	"	*04/02/2020 16:47*	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RC-1

2003241-08 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**13.3**	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 15:50	EPA 8260D	
Ethylbenzene	**45.7**	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.1	*112 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.9	*104 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	49.1	*98.2 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.9	*106 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RC-1A

2003241-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**109**	2.00	mg/L	4.0	0C13004	DLW	03/12/2020 09:00	03/12/2020 18:50	SM 4110B 2011	
Nitrate as N	**1.54**	0.500	"	1.0	"	DLW	"	03/12/2020 15:15	"	
Ammonia as N	**1.01**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:21	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C13009	ABT	03/13/2020 10:15	03/16/2020 22:21	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00938**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**231**	104	ug/L	10.0	0C16032	CRLV	03/16/2020 11:00	04/02/2020 16:13	EPA 8270D	
Acenaphthylene	ND	10.4	"	1.0	"	CRLV	"	04/02/2020 10:56	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	**418**	104	"	10.0	"	CRLV	"	04/02/2020 16:13	"	
4-Chloro-3-methylphenol	ND	10.4	"	1.0	"	CRLV	"	04/02/2020 10:56	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	**105**	104	"	10.0	"	CRLV	"	04/02/2020 16:13	"	
2,4-Dimethylphenol	ND	10.4	"	1.0	"	CRLV	"	04/02/2020 10:56	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	**108**	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**11.8**	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	**2670**	1040	"	100.0	"	CRLV	"	04/02/2020 15:05	"	
Pentachlorophenol	ND	10.4	"	1.0	"	CRLV	"	04/02/2020 10:56	"	
Phenanthrene	**76.8**	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Mobile/RC-1A

2003241-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	83.2	*79.9 %*	*13.3-115*		*0C16032*	CRLV	*03/16/2020 11:00*	*04/02/2020 16:13*	"	
2-Fluorobiphenyl	36.1	*69.3 %*	*14.7-104*		"	CRLV	"	*04/02/2020 10:56*	"	
2-Fluorophenol	73.9	*70.9 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	17.6	*33.9 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	80.2	*77.0 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	45.8	*87.9 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 16:16	EPA 8260D	
Ethylbenzene	**15.3**	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	54.2	*108 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.9	*104 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	49.9	*99.7 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	54.8	*110 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Trip Blank TBV#6386

2003241-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C25028	BSF	03/24/2020 08:00	03/24/2020 16:42	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.6	*109 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.6	*103 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	47.5	*95.0 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.1	*102 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
Blank (0C17030-BLK1)											
Benzo (a) pyrene	3/17/20 21:25	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		"	*0.200*		*85.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.150*		"	*0.200*		*75.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
LCS (0C17030-BS1)											
Benzo (a) pyrene	3/17/20 22:06	0.17	0.06	ug/L	0.200		85.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		"	*0.200*		*85.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.130*		"	*0.200*		*65.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C17030-BSD1)											
Benzo (a) pyrene	3/17/20 22:47	0.13	0.06	ug/L	0.200		65.0	10-149	26.7	40	
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		"	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.140*		"	*0.200*		*70.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C17030-DUP1)			**Source: 2003208-03**								
Benzo (a) pyrene	3/18/20 0:51	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.115*		*"*	*0.208*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.146*		*"*	*0.208*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0938*		*"*	*0.208*		*45.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C13004 - Default Prep GenChem											
Blank (0C13004-BLK1)											
Chloride	3/12/20 10:14	ND	0.500	mg/L							
Nitrate as N	3/12/20 10:14	ND	0.500	"							
LCS (0C13004-BS1)											
Chloride	3/12/20 9:38	2.86	0.500	mg/L	3.00		95.3	81.8-111			
Nitrate as N	3/12/20 9:38	2.26	0.500	"	2.26		99.9	81.1-113			
LCS Dup (0C13004-BSD1)											
Chloride	3/12/20 9:56	2.85	0.500	mg/L	3.00		94.8	81.8-111	0.491	20	
Nitrate as N	3/12/20 9:56	2.26	0.500	"	2.26		100	81.1-113	0.0443	20	
Duplicate (0C13004-DUP1)			**Source: 2003267-01**								
Chloride	3/12/20 16:09	29.9	0.500	mg/L		29.9			0.0167	20	
Nitrate as N	3/12/20 16:09	1.49	0.500	"		1.49			0.134	20	
Matrix Spike (0C13004-MS1)			**Source: 2003267-01**								
Chloride	3/12/20 16:27	128	5.00	mg/L	100	29.9	98.4	75.3-124			
Nitrate as N	3/12/20 16:27	20.7	5.00	"	22.6	1.49	85.0	58.5-131			
Matrix Spike Dup (0C13004-MSD1)			**Source: 2003267-01**								
Chloride	3/12/20 16:45	128	5.00	mg/L	100	29.9	98.5	75.3-124	0.0935	20	
Nitrate as N	3/12/20 16:45	20.7	5.00	"	22.6	1.49	85.0	58.5-131	0.0483	20	
Batch 0C24043 - Default Prep GenChem											
Blank (0C24043-BLK1)											
Ammonia as N	3/24/20 10:50	ND	0.21	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24043 - Default Prep GenChem											
Blank (0C24043-BLK2)											
Ammonia as N	3/24/20 11:45	ND	0.21	mg/L							
LCS (0C24043-BS1)											
Ammonia as N	3/24/20 10:53	5.30	0.21	mg/L				90-110			
LCS (0C24043-BS2)											
Ammonia as N	3/24/20 11:49	4.95	0.21	mg/L				90-110			
LCS Dup (0C24043-BSD1)											
Ammonia as N	3/24/20 10:56	5.36	0.21	mg/L				90-110	1.13	10	
LCS Dup (0C24043-BSD2)											
Ammonia as N	3/24/20 11:52	5.00	0.21	mg/L				90-110	1.01	10	
Matrix Spike (0C24043-MS1)			**Source: 2003241-01**								
Ammonia as N	3/24/20 11:04	4.80	0.21	mg/L		ND		90-110			
Matrix Spike (0C24043-MS2)			**Source: 2003341-01**								
Ammonia as N	3/24/20 11:58	4.73	0.21	mg/L		ND		90-110			
Matrix Spike Dup (0C24043-MSD1)			**Source: 2003241-01**								
Ammonia as N	3/24/20 11:06	4.68	0.21	mg/L		ND		90-110	2.53	10	
Matrix Spike Dup (0C24043-MSD2)			**Source: 2003341-01**								
Ammonia as N	3/24/20 12:00	4.81	0.21	mg/L		ND		90-110	1.68	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C13009 - EPA 200.2 DCN 1017 Rev 9											
Blank (0C13009-BLK1)											
Arsenic [HHe]	3/16/20 16:35	ND	0.00200	mg/L							
Chromium [He]	3/16/20 16:35	ND	0.00100	"							
Lead [He]	3/16/20 16:35	ND	0.00100	"							
Nickel [He]	3/16/20 16:35	ND	0.0400	"							
LCS (0C13009-BS1)											
Arsenic [HHe]	3/16/20 16:43	0.107	0.00200	mg/L	0.100		107	85-115			
Chromium [He]	3/16/20 16:43	0.104	0.00100	"	0.100		104	85-115			
Lead [He]	3/16/20 16:43	0.103	0.00100	"	0.100		103	85-115			
Nickel [He]	3/16/20 16:43	0.107	0.0400	"	0.100		107	85-115			
LCS Dup (0C13009-BSD1)											
Arsenic [HHe]	3/16/20 16:50	0.106	0.00200	mg/L	0.100		106	85-115	1.42	20	
Chromium [He]	3/16/20 16:50	0.103	0.00100	"	0.100		103	85-115	0.647	20	
Lead [He]	3/16/20 16:50	0.102	0.00100	"	0.100		102	85-115	1.09	20	
Nickel [He]	3/16/20 16:50	0.106	0.0400	"	0.100		106	85-115	0.970	20	
Matrix Spike (0C13009-MS1)			**Source: 2003238-01**								
Arsenic [HHe]	3/16/20 19:00	0.104	0.00200	mg/L	0.100	0.0006	103	70-130			
Chromium [He]	3/16/20 19:00	0.106	0.00100	"	0.100	0.0004	106	70-130			
Lead [He]	3/16/20 19:00	0.104	0.00100	"	0.100	ND	104	70-130			
Nickel [He]	3/16/20 19:00	0.110	0.0400	"	0.100	0.002	108	70-130			
Matrix Spike Dup (0C13009-MSD1)			**Source: 2003238-01**								
Arsenic [HHe]	3/16/20 19:08	0.107	0.00200	mg/L	0.100	0.0006	106	70-130	2.79	20	
Chromium [He]	3/16/20 19:08	0.106	0.00100	"	0.100	0.0004	106	70-130	0.137	20	
Lead [He]	3/16/20 19:08	0.104	0.00100	"	0.100	ND	104	70-130	0.476	20	
Nickel [He]	3/16/20 19:08	0.109	0.0400	"	0.100	0.002	108	70-130	0.405	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Blank (0C16018-BLK1)											
Acenaphthene	3/23/20 10:36	ND	10.0	ug/L							
Acenaphthylene	3/23/20 10:36	ND	10.0	"							
Anthracene	3/23/20 10:36	ND	10.0	"							
Benzo (a) anthracene	3/23/20 10:36	ND	10.0	"							
Benzo (b) fluoranthene	3/23/20 10:36	ND	10.0	"							
Benzo (k) fluoranthene	3/23/20 10:36	ND	10.0	"							
Benzo (a) pyrene	3/23/20 10:36	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/23/20 10:36	ND	10.0	"							
Carbazole	3/23/20 10:36	ND	10.0	"							
4-Chloro-3-methylphenol	3/23/20 10:36	ND	10.0	"							
Chrysene	3/23/20 10:36	ND	10.0	"							
Dibenz (a,h) anthracene	3/23/20 10:36	ND	10.0	"							
Dibenzofuran	3/23/20 10:36	ND	10.0	"							
2,4-Dimethylphenol	3/23/20 10:36	ND	10.0	"							
2,4-Dinitrophenol	3/23/20 10:36	ND	10.0	"							
Di-n-octyl phthalate	3/23/20 10:36	ND	10.0	"							
Fluoranthene	3/23/20 10:36	ND	10.0	"							
Fluorene	3/23/20 10:36	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/23/20 10:36	ND	10.0	"							
2-Methylnaphthalene	3/23/20 10:36	ND	10.0	"							
2-Methylphenol	3/23/20 10:36	ND	10.0	"							
3 & 4-Methylphenol	3/23/20 10:36	ND	10.0	"							
Naphthalene	3/23/20 10:36	ND	10.0	"							
Pentachlorophenol	3/23/20 10:36	ND	10.0	"							
Phenanthrene	3/23/20 10:36	ND	10.0	"							
Pyrene	3/23/20 10:36	ND	10.0	"							
2,4,6-Trichlorophenol	3/23/20 10:36	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*17.1*		"	*30.0*		*57.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*11.5*		"	*15.0*		*76.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*19.9*		"	*30.0*		*66.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*9.40*		"	*15.0*		*62.7*	*10-103*			
Surrogate: Phenol-d5		*19.9*		"	*30.0*		*66.3*	*10-105*			
Surrogate: Terphenyl-dl4		*12.2*		"	*15.0*		*81.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
LCS (0C16018-BS1)											
Acenaphthene	3/19/20 15:47	13.2	10.0	ug/L	20.0		65.9	45.5-108			
Acenaphthylene	3/19/20 15:47	12.9	10.0	"	20.0		64.4	46.4-114			
Anthracene	3/19/20 15:47	14.0	10.0	"	20.0		69.8	47-106			
Benzo (a) anthracene	3/19/20 15:47	13.6	10.0	"	20.0		67.9	50.8-105			
Benzo (b) fluoranthene	3/19/20 15:47	10.2	10.0	"	20.0		51.2	47-109			CC-03
Benzo (k) fluoranthene	3/19/20 15:47	11.2	10.0	"	20.0		56.2	44-111			
Benzo (a) pyrene	3/19/20 15:47	14.7	10.0	"	20.0		73.6	52.9-103			
Bis(2-ethylhexyl)phthalate	3/19/20 15:47	16.6	10.0	"	20.0		82.9	36.4-121			
Carbazole	3/19/20 15:47	13.5	10.0	"	20.0		67.5	25-172			CC-03
4-Chloro-3-methylphenol	3/19/20 15:47	13.0	10.0	"	20.0		65.1	46.4-108			
Chrysene	3/19/20 15:47	13.1	10.0	"	20.0		65.3	46.6-100			
Dibenz (a,h) anthracene	3/19/20 15:47	16.6	10.0	"	20.0		83.1	46.7-102			
Dibenzofuran	3/19/20 15:47	12.7	10.0	"	20.0		63.6	45.8-105			
2,4-Dimethylphenol	3/19/20 15:47	8.81	10.0	"	20.0		44.1	41.6-101			
2,4-Dinitrophenol	3/19/20 15:47	9.10	10.0	"	20.0		45.5	10-131			
Di-n-octyl phthalate	3/19/20 15:47	14.3	10.0	"	20.0		71.4	38.6-123			
Fluoranthene	3/19/20 15:47	12.5	10.0	"	20.0		62.5	44.9-114			
Fluorene	3/19/20 15:47	13.1	10.0	"	20.0		65.6	45.6-107			
Indeno (1,2,3-cd) pyrene	3/19/20 15:47	16.9	10.0	"	20.0		84.6	45.8-104			
2-Methylnaphthalene	3/19/20 15:47	12.5	10.0	"	20.0		62.4	44.2-104			
2-Methylphenol	3/19/20 15:47	11.2	10.0	"	20.0		56.0	44.5-103			
3 & 4-Methylphenol	3/19/20 15:47	23.8	10.0	"	40.0		59.5	11-149			
Naphthalene	3/19/20 15:47	12.4	10.0	"	20.0		61.9	45-100			
Pentachlorophenol	3/19/20 15:47	12.5	10.0	"	20.0		62.3	17.4-124			
Phenanthrene	3/19/20 15:47	13.3	10.0	"	20.0		66.7	49.2-107			
Pyrene	3/19/20 15:47	11.0	10.0	"	20.0		54.9	31.7-124			
2,4,6-Trichlorophenol	3/19/20 15:47	13.5	10.0	"	20.0		67.4	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*21.7*		*"*	*30.0*		*72.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*9.02*		*"*	*15.0*		*60.1*	*14.7-104*			
Surrogate: 2-Fluorophenol		*17.7*		*"*	*30.0*		*58.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*9.12*		*"*	*15.0*		*60.8*	*10-103*			
Surrogate: Phenol-d5		*17.9*		*"*	*30.0*		*59.8*	*10-105*			
Surrogate: Terphenyl-dl4		*9.54*		*"*	*15.0*		*63.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C16018-BSD1)											
Acenaphthene	3/23/20 11:14	10.9	10.0	ug/L	20.0		54.6	45.5-108	18.8	40	
Acenaphthylene	3/23/20 11:14	10.5	10.0	"	20.0		52.7	46.4-114	19.9	40	
Anthracene	3/23/20 11:14	12.2	10.0	"	20.0		60.9	47-106	13.6	40	
Benzo (a) anthracene	3/23/20 11:14	12.7	10.0	"	20.0		63.5	50.8-105	6.70	40	
Benzo (b) fluoranthene	3/23/20 11:14	13.7	10.0	"	20.0		68.3	47-109	28.7	40	CC-03
Benzo (k) fluoranthene	3/23/20 11:14	14.2	10.0	"	20.0		70.9	44-111	23.1	40	
Benzo (a) pyrene	3/23/20 11:14	13.6	10.0	"	20.0		68.0	52.9-103	7.98	40	
Bis(2-ethylhexyl)phthalate	3/23/20 11:14	12.2	10.0	"	20.0		60.9	36.4-121	30.5	40	
Carbazole	3/23/20 11:14	11.4	10.0	"	20.0		56.8	25-172	17.3	40	CC-03
4-Chloro-3-methylphenol	3/23/20 11:14	11.2	10.0	"	20.0		55.8	46.4-108	15.4	40	
Chrysene	3/23/20 11:14	13.0	10.0	"	20.0		65.0	46.6-100	0.460	40	
Dibenz (a,h) anthracene	3/23/20 11:14	13.1	10.0	"	20.0		65.4	46.7-102	23.8	40	
Dibenzofuran	3/23/20 11:14	10.8	10.0	"	20.0		53.9	45.8-105	16.4	40	
2,4-Dimethylphenol	3/23/20 11:14	10.2	10.0	"	20.0		51.1	41.6-101	14.8	40	
2,4-Dinitrophenol	3/23/20 11:14	9.21	10.0	"	20.0		46.1	10-131	1.20	40	
Di-n-octyl phthalate	3/23/20 11:14	13.5	10.0	"	20.0		67.4	38.6-123	5.76	40	
Fluoranthene	3/23/20 11:14	11.9	10.0	"	20.0		59.5	44.9-114	4.84	40	
Fluorene	3/23/20 11:14	11.3	10.0	"	20.0		56.3	45.6-107	15.2	40	
Indeno (1,2,3-cd) pyrene	3/23/20 11:14	13.0	10.0	"	20.0		65.1	45.8-104	26.1	40	
2-Methylnaphthalene	3/23/20 11:14	10.8	10.0	"	20.0		53.8	44.2-104	14.7	40	
2-Methylphenol	3/23/20 11:14	10.4	10.0	"	20.0		52.0	44.5-103	7.41	40	
3 & 4-Methylphenol	3/23/20 11:14	20.8	10.0	"	40.0		52.1	11-149	13.2	40	
Naphthalene	3/23/20 11:14	10.4	10.0	"	20.0		52.1	45-100	17.3	40	
Pentachlorophenol	3/23/20 11:14	9.56	10.0	"	20.0		47.8	17.4-124	26.3	40	
Phenanthrene	3/23/20 11:14	11.5	10.0	"	20.0		57.7	49.2-107	14.6	40	
Pyrene	3/23/20 11:14	11.1	10.0	"	20.0		55.6	31.7-124	1.36	40	
2,4,6-Trichlorophenol	3/23/20 11:14	10.9	10.0	"	20.0		54.4	41.7-110	21.4	40	
Surrogate: 2,4,6-Tribromophenol		*18.7*		"	*30.0*		*62.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*7.60*		"	*15.0*		*50.7*	*14.7-104*			
Surrogate: 2-Fluorophenol		*14.5*		"	*30.0*		*48.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*7.39*		"	*15.0*		*49.3*	*10-103*			
Surrogate: Phenol-d5		*14.8*		"	*30.0*		*49.4*	*10-105*			
Surrogate: Terphenyl-dl4		*8.29*		"	*15.0*		*55.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C16018-DUP1)			**Source: 2003208-01**								
Acenaphthene	3/25/20 14:58	136	109	ug/L		129			5.21	45	
Acenaphthylene	3/19/20 22:37	ND	10.9	"		ND				45	
Anthracene	3/19/20 22:37	15.3	10.9	"		29.2			62.3	45	P3
Benzo (a) anthracene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (b) fluoranthene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (k) fluoranthene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (a) pyrene	3/19/20 22:37	ND	10.9	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/19/20 22:37	ND	10.9	"		ND				45	
Carbazole	3/25/20 14:58	38.4	109	"		36.8			4.09	45	
4-Chloro-3-methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
Chrysene	3/19/20 22:37	ND	10.9	"		ND				45	
Dibenz (a,h) anthracene	3/19/20 22:37	ND	10.9	"		ND				45	
Dibenzofuran	3/25/20 14:58	60.5	109	"		67.4			10.8	45	
2,4-Dimethylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
2,4-Dinitrophenol	3/19/20 22:37	ND	10.9	"		ND				45	
Di-n-octyl phthalate	3/19/20 22:37	ND	10.9	"		ND				45	
Fluoranthene	3/25/20 14:58	80.1	109	"		64.9			20.9	45	
Fluorene	3/25/20 14:58	103	109	"		94.9			8.06	45	
Indeno (1,2,3-cd) pyrene	3/19/20 22:37	ND	10.9	"		ND				45	
2-Methylnaphthalene	3/19/20 22:37	ND	10.9	"		ND				45	
2-Methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
3 & 4-Methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
Naphthalene	3/19/20 22:37	ND	10.9	"		ND				45	
Pentachlorophenol	3/25/20 14:58	ND	10.9	"		ND				45	
Phenanthrene	3/25/20 14:58	169	109	"		137			20.8	45	
Pyrene	3/25/20 14:58	40.5	109	"		34.1			17.3	45	
2,4,6-Trichlorophenol	3/19/20 22:37	ND	10.9	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*21.2*		*"*	*21.7*		*97.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*6.21*		*"*	*10.9*		*57.1*	*14.7-104*			
Surrogate: 2-Fluorophenol		*7.91*		*"*	*21.7*		*36.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*5.50*		*"*	*10.9*		*50.6*	*10-103*			
Surrogate: Phenol-d5		*5.05*		*"*	*21.7*		*23.3*	*10-105*			
Surrogate: Terphenyl-dl4		*11.4*		*"*	*10.9*		*105*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Blank (0C16032-BLK1)											
Acenaphthene	4/1/20 8:59	ND	10.0	ug/L							
Acenaphthylene	4/1/20 8:59	ND	10.0	"							
Anthracene	4/1/20 8:59	ND	10.0	"							
Benzo (a) anthracene	4/1/20 8:59	ND	10.0	"							
Benzo (b) fluoranthene	4/1/20 8:59	ND	10.0	"							
Benzo (k) fluoranthene	4/1/20 8:59	ND	10.0	"							
Benzo (a) pyrene	4/1/20 8:59	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	4/1/20 8:59	ND	10.0	"							
Carbazole	4/1/20 8:59	ND	10.0	"							
4-Chloro-3-methylphenol	4/1/20 8:59	ND	10.0	"							
Chrysene	4/1/20 8:59	ND	10.0	"							
Dibenz (a,h) anthracene	4/1/20 8:59	ND	10.0	"							
Dibenzofuran	4/1/20 8:59	ND	10.0	"							
2,4-Dimethylphenol	4/1/20 8:59	ND	10.0	"							
2,4-Dinitrophenol	4/1/20 8:59	ND	10.0	"							
Di-n-octyl phthalate	4/1/20 8:59	ND	10.0	"							
Fluoranthene	4/1/20 8:59	ND	10.0	"							
Fluorene	4/1/20 8:59	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	4/1/20 8:59	ND	10.0	"							
2-Methylnaphthalene	4/1/20 8:59	ND	10.0	"							
2-Methylphenol	4/1/20 8:59	ND	10.0	"							
3 & 4-Methylphenol	4/1/20 8:59	ND	10.0	"							
Naphthalene	4/1/20 8:59	ND	10.0	"							
Pentachlorophenol	4/1/20 8:59	ND	10.0	"							
Phenanthrene	4/1/20 8:59	ND	10.0	"							
Pyrene	4/1/20 8:59	ND	10.0	"							
2,4,6-Trichlorophenol	4/1/20 8:59	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*109*		*"*	*100*		*109*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*37.2*		*"*	*50.0*		*74.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*69.6*		*"*	*100*		*69.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*41.1*		*"*	*50.0*		*82.2*	*10-103*			
Surrogate: Phenol-d5		*75.8*		*"*	*100*		*75.8*	*10-105*			
Surrogate: Terphenyl-dl4		*56.7*		*"*	*50.0*		*113*	*10-110*			*SR06*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
LCS (0C16032-BS1)											
Acenaphthene	4/1/20 10:41	76.0	20.0	ug/L	100		76.0	45.5-108			
Acenaphthylene	4/1/20 10:41	78.2	20.0	"	100		78.2	46.4-114			
Anthracene	4/1/20 10:41	70.5	20.0	"	100		70.5	47-106			
Benzo (a) anthracene	4/1/20 10:41	78.3	20.0	"	100		78.3	50.8-105			
Benzo (b) fluoranthene	4/1/20 10:41	81.5	20.0	"	100		81.5	47-109			
Benzo (k) fluoranthene	4/1/20 10:41	93.4	20.0	"	100		93.4	44-111			
Benzo (a) pyrene	4/1/20 10:41	83.2	20.0	"	100		83.2	52.9-103			
Bis(2-ethylhexyl)phthalate	4/1/20 10:41	63.5	20.0	"	100		63.5	36.4-121			
Carbazole	4/1/20 10:41	107	20.0	"	100		107	25-172			
4-Chloro-3-methylphenol	4/1/20 10:41	84.4	20.0	"	100		84.4	46.4-108			
Chrysene	4/1/20 10:41	78.7	20.0	"	100		78.7	46.6-100			
Dibenz (a,h) anthracene	4/1/20 10:41	80.6	20.0	"	100		80.6	46.7-102			
Dibenzofuran	4/1/20 10:41	71.3	20.0	"	100		71.3	45.8-105			
2,4-Dimethylphenol	4/1/20 10:41	63.2	20.0	"	100		63.2	41.6-101			
2,4-Dinitrophenol	4/1/20 10:41	57.3	20.0	"	100		57.3	10-131			
Di-n-octyl phthalate	4/1/20 10:41	81.9	20.0	"	100		81.9	38.6-123			
Fluoranthene	4/1/20 10:41	81.1	20.0	"	100		81.1	44.9-114			
Fluorene	4/1/20 10:41	78.2	20.0	"	100		78.2	45.6-107			
Indeno (1,2,3-cd) pyrene	4/1/20 10:41	77.4	20.0	"	100		77.4	45.8-104			
2-Methylnaphthalene	4/1/20 10:41	71.7	20.0	"	100		71.7	44.2-104			
2-Methylphenol	4/1/20 10:41	73.9	20.0	"	100		73.9	44.5-103			
3 & 4-Methylphenol	4/1/20 10:41	157	20.0	"	200		78.4	11-149			
Naphthalene	4/1/20 10:41	78.9	20.0	"	100		78.9	45-100			
Pentachlorophenol	4/1/20 10:41	62.4	20.0	"	100		62.4	17.4-124			
Phenanthrene	4/1/20 10:41	77.0	20.0	"	100		77.0	49.2-107			
Pyrene	4/1/20 10:41	71.0	20.0	"	100		71.0	31.7-124			
2,4,6-Trichlorophenol	4/1/20 10:41	76.7	20.0	"	100		76.7	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*79.6*		*"*	*100*		*79.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.2*		*"*	*50.0*		*70.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*67.2*		*"*	*100*		*67.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*39.4*		*"*	*50.0*		*78.8*	*10-103*			
Surrogate: Phenol-d5		*77.1*		*"*	*100*		*77.1*	*10-105*			
Surrogate: Terphenyl-dl4		*28.1*		*"*	*50.0*		*56.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0C16032-BSD1)											
Acenaphthene	4/1/20 11:16	76.7	20.0	ug/L	100		76.7	45.5-108	0.891	40	
Acenaphthylene	4/1/20 11:16	78.1	20.0	"	100		78.1	46.4-114	0.128	40	
Anthracene	4/1/20 11:16	70.4	20.0	"	100		70.4	47-106	0.142	40	
Benzo (a) anthracene	4/1/20 11:16	69.2	20.0	"	100		69.2	50.8-105	12.3	40	
Benzo (b) fluoranthene	4/1/20 11:16	84.4	20.0	"	100		84.4	47-109	3.42	40	
Benzo (k) fluoranthene	4/1/20 11:16	90.1	20.0	"	100		90.1	44-111	3.57	40	
Benzo (a) pyrene	4/1/20 11:16	81.5	20.0	"	100		81.5	52.9-103	2.11	40	
Bis(2-ethylhexyl)phthalate	4/1/20 11:16	66.0	20.0	"	100		66.0	36.4-121	3.89	40	
Carbazole	4/1/20 11:16	112	20.0	"	100		112	25-172	5.05	40	
4-Chloro-3-methylphenol	4/1/20 11:16	80.7	20.0	"	100		80.7	46.4-108	4.53	40	
Chrysene	4/1/20 11:16	75.0	20.0	"	100		75.0	46.6-100	4.89	40	
Dibenz (a,h) anthracene	4/1/20 11:16	76.3	20.0	"	100		76.3	46.7-102	5.48	40	
Dibenzofuran	4/1/20 11:16	71.9	20.0	"	100		71.9	45.8-105	0.754	40	
2,4-Dimethylphenol	4/1/20 11:16	68.4	20.0	"	100		68.4	41.6-101	7.87	40	
2,4-Dinitrophenol	4/1/20 11:16	58.1	20.0	"	100		58.1	10-131	1.32	40	
Di-n-octyl phthalate	4/1/20 11:16	84.4	20.0	"	100		84.4	38.6-123	2.98	40	
Fluoranthene	4/1/20 11:16	83.8	20.0	"	100		83.8	44.9-114	3.30	40	
Fluorene	4/1/20 11:16	69.6	20.0	"	100		69.6	45.6-107	11.6	40	
Indeno (1,2,3-cd) pyrene	4/1/20 11:16	76.1	20.0	"	100		76.1	45.8-104	1.72	40	
2-Methylnaphthalene	4/1/20 11:16	67.7	20.0	"	100		67.7	44.2-104	5.74	40	
2-Methylphenol	4/1/20 11:16	72.2	20.0	"	100		72.2	44.5-103	2.30	40	
3 & 4-Methylphenol	4/1/20 11:16	149	20.0	"	200		74.7	11-149	4.84	40	
Naphthalene	4/1/20 11:16	72.8	20.0	"	100		72.8	45-100	8.01	40	
Pentachlorophenol	4/1/20 11:16	64.0	20.0	"	100		64.0	17.4-124	2.50	40	
Phenanthrene	4/1/20 11:16	81.3	20.0	"	100		81.3	49.2-107	5.46	40	
Pyrene	4/1/20 11:16	68.1	20.0	"	100		68.1	31.7-124	4.20	40	
2,4,6-Trichlorophenol	4/1/20 11:16	71.8	20.0	"	100		71.8	41.7-110	6.68	40	
Surrogate: 2,4,6-Tribromophenol		*87.0*		"	*100*		*87.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.5*		"	*50.0*		*70.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*62.7*		"	*100*		*62.7*	*10-100*			
Surrogate: Nitrobenzene-d5		*37.5*		"	*50.0*		*75.1*	*10-103*			
Surrogate: Phenol-d5		*76.1*		"	*100*		*76.1*	*10-105*			
Surrogate: Terphenyl-dl4		*28.5*		"	*50.0*		*57.0*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0C16032-DUP1)			**Source: 2003250-01**								
Acenaphthene	4/1/20 10:07	ND	10.1	ug/L		ND				45	
Acenaphthylene	4/1/20 10:07	ND	10.1	"		ND				45	
Anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (a) anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (b) fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (k) fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (a) pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
Bis(2-ethylhexyl)phthalate	4/1/20 10:07	12.6	10.1	"		2.97			123	45	B-07, P3
Carbazole	4/1/20 10:07	ND	10.1	"		ND				45	
4-Chloro-3-methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
Chrysene	4/1/20 10:07	ND	10.1	"		ND				45	
Dibenz (a,h) anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Dibenzofuran	4/1/20 10:07	ND	10.1	"		ND				45	
2,4-Dimethylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
2,4-Dinitrophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Di-n-octyl phthalate	4/1/20 10:07	ND	10.1	"		ND				45	
Fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Fluorene	4/1/20 10:07	ND	10.1	"		ND				45	
Indeno (1,2,3-cd) pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
2-Methylnaphthalene	4/1/20 10:07	ND	10.1	"		ND				45	
2-Methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
3 & 4-Methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
Naphthalene	4/1/20 10:07	ND	10.1	"		ND				45	
Pentachlorophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Phenanthrene	4/1/20 10:07	ND	10.1	"		ND				45	
Pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
2,4,6-Trichlorophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*120*		*"*	*101*		*119*	*13.3-115*			*SR05*
Surrogate: 2-Fluorobiphenyl		*34.0*		*"*	*50.5*		*67.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*68.6*		*"*	*101*		*68.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*40.9*		*"*	*50.5*		*81.1*	*10-103*			
Surrogate: Phenol-d5		*70.9*		*"*	*101*		*70.2*	*10-105*			
Surrogate: Terphenyl-dl4		*52.5*		*"*	*50.5*		*104*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (0C16032-MS1)			**Source: 2003250-01**								
Acenaphthene	4/1/20 11:50	87.7	20.3	ug/L	102	ND	86.4	21.2-106			
Acenaphthylene	4/1/20 11:50	34.8	20.3	"	102	ND	34.3	23.7-113			
Anthracene	4/1/20 11:50	64.9	20.3	"	102	ND	63.9	32.7-100			
Benzo (a) anthracene	4/1/20 11:50	67.4	20.3	"	102	ND	66.3	35.6-101			
Benzo (b) fluoranthene	4/1/20 11:50	87.0	20.3	"	102	ND	85.7	38.4-100			
Benzo (k) fluoranthene	4/1/20 11:50	89.6	20.3	"	102	ND	88.3	29.6-107			
Benzo (a) pyrene	4/1/20 11:50	45.1	20.3	"	102	ND	44.4	32.7-102			
Bis(2-ethylhexyl)phthalate	4/1/20 11:50	71.7	20.3	"	102	2.97	67.7	28.4-112			
Carbazole	4/1/20 11:50	25.2	20.3	"	102	ND	24.8	24.9-167			M2
4-Chloro-3-methylphenol	4/1/20 11:50	91.2	20.3	"	102	ND	89.9	20.7-115			
Chrysene	4/1/20 11:50	77.7	20.3	"	102	ND	76.5	30.8-100			
Dibenz (a,h) anthracene	4/1/20 11:50	77.9	20.3	"	102	ND	76.7	32.3-103			
Dibenzofuran	4/1/20 11:50	83.1	20.3	"	102	ND	81.9	29.1-105			
2,4-Dimethylphenol	4/1/20 11:50	89.0	20.3	"	102	ND	87.7	15.6-114			
2,4-Dinitrophenol	4/1/20 11:50	67.7	20.3	"	102	ND	66.7	10-110			
Di-n-octyl phthalate	4/1/20 11:50	92.2	20.3	"	102	ND	90.8	19.2-118			
Fluoranthene	4/1/20 11:50	84.5	20.3	"	102	ND	83.3	31.9-106			
Fluorene	4/1/20 11:50	84.1	20.3	"	102	ND	82.8	28.1-104			
Indeno (1,2,3-cd) pyrene	4/1/20 11:50	68.6	20.3	"	102	ND	67.6	29.6-105			
2-Methylnaphthalene	4/1/20 11:50	78.4	20.3	"	102	ND	77.2	18.5-106			
2-Methylphenol	4/1/20 11:50	86.3	20.3	"	102	ND	85.0	10-106			
3 & 4-Methylphenol	4/1/20 11:50	175	20.3	"	203	ND	86.3	10-139			
Naphthalene	4/1/20 11:50	83.6	20.3	"	102	ND	82.4	17-100			
Pentachlorophenol	4/1/20 11:50	71.5	20.3	"	102	ND	70.4	10-119			
Phenanthrene	4/1/20 11:50	86.7	20.3	"	102	ND	85.4	34.8-106			
Pyrene	4/1/20 11:50	46.5	20.3	"	102	ND	45.8	10-127			
2,4,6-Trichlorophenol	4/1/20 11:50	85.1	20.3	"	102	ND	83.8	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*82.9*		"	*102*		*81.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*34.8*		"	*50.8*		*68.5*	*14.7-104*			
Surrogate: 2-Fluorophenol		*72.9*		"	*102*		*71.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*42.6*		"	*50.8*		*83.9*	*10-103*			
Surrogate: Phenol-d5		*68.0*		"	*102*		*67.0*	*10-105*			
Surrogate: Terphenyl-dl4		*25.6*		"	*50.8*		*50.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Blank (0C16018-BLK1)											
Pentachlorophenol	3/23/20 10:36	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*17.1*		*"*	*30.0*		*57.1*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*11.5*		*"*	*15.0*		*76.3*	*26.4-100*			
Surrogate: 2-Fluorophenol		*19.9*		*"*	*30.0*		*66.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*9.40*		*"*	*15.0*		*62.7*	*20.6-100*			
Surrogate: Phenol-d5		*19.9*		*"*	*30.0*		*66.3*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
LCS (0C16018-BS1)											
Pentachlorophenol	3/19/20 15:47	12.5	1.00	ug/L	20.0		62.3	10-144			
Surrogate: 2,4,6-Tribromophenol		*21.7*		*"*	*30.0*		*72.4*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*9.02*		*"*	*15.0*		*60.1*	*26.4-100*			
Surrogate: 2-Fluorophenol		*17.7*		*"*	*30.0*		*58.9*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*9.12*		*"*	*15.0*		*60.8*	*20.6-100*			
Surrogate: Phenol-d5		*17.9*		*"*	*30.0*		*59.8*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
LCS Dup (0C16018-BSD1)											
Pentachlorophenol	3/23/20 11:14	9.56	1.00	ug/L	20.0		47.8	10-144	26.3	40	
Surrogate: 2,4,6-Tribromophenol		*18.7*		*"*	*30.0*		*62.3*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*7.64*		*"*	*15.0*		*50.9*	*26.4-100*			
Surrogate: 2-Fluorophenol		*14.5*		*"*	*30.0*		*48.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*8.28*		*"*	*15.0*		*55.2*	*20.6-100*			
Surrogate: Phenol-d5		*14.8*		*"*	*30.0*		*49.4*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
Duplicate (0C16018-DUP1)			**Source: 2003208-01**								
Pentachlorophenol	3/19/20 22:37	4.25	1.00	ug/L		ND			200	45	B-07
Surrogate: 2,4,6-Tribromophenol		*21.2*		*"*	*21.7*		*97.7*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*0.337*		*"*	*10.9*		*3.10*	*26.4-100*			
Surrogate: 2-Fluorophenol		*7.91*		*"*	*21.7*		*36.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*0.239*		*"*	*10.9*		*2.20*	*20.6-100*			
Surrogate: Phenol-d5		*5.05*		*"*	*21.7*		*23.3*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*10.9*			*13.5-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23049 - EPA 5030B											
Blank (0C23049-BLK1)											
Benzene	3/20/20 16:34	ND	5.00	ug/L							
Ethylbenzene	3/20/20 16:34	ND	5.00	"							
Surrogate: Dibromofluoromethane		*61.3*		"	*50.0*		*123*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*57.0*		"	*50.0*		*114*	*70-130*			
Surrogate: Toluene-d8		*44.1*		"	*50.0*		*88.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.2*		"	*50.0*		*108*	*70-130*			
LCS (0C23049-BS1)											
Benzene	3/20/20 17:00	21.3	5.00	ug/L	20.0		107	79.8-135			
Ethylbenzene	3/20/20 17:00	24.1	5.00	"	20.0		121	79.9-137			
Surrogate: Dibromofluoromethane		*46.9*		"	*50.0*		*93.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.2*		"	*50.0*		*96.3*	*70-130*			
Surrogate: Toluene-d8		*48.8*		"	*50.0*		*97.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.4*		"	*50.0*		*105*	*70-130*			
LCS Dup (0C23049-BSD1)											
Benzene	3/20/20 17:26	21.5	5.00	ug/L	20.0		108	79.8-135	0.981	30	
Ethylbenzene	3/20/20 17:26	21.2	5.00	"	20.0		106	79.9-137	12.8	30	
Surrogate: Dibromofluoromethane		*51.1*		"	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.7*		"	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8		*47.5*		"	*50.0*		*95.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*44.1*		"	*50.0*		*88.3*	*70-130*			
Matrix Spike (0C23049-MS1)			**Source: 2003164-01**								
Benzene	3/20/20 18:19	24.1	5.00	ug/L	20.0	ND	120	83.5-141			
Ethylbenzene	3/20/20 18:19	25.7	5.00	"	20.0	ND	128	62.1-158			
Surrogate: Dibromofluoromethane		*49.9*		"	*50.0*		*99.9*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.8*		"	*50.0*		*99.6*	*70-130*			
Surrogate: Toluene-d8		*47.1*		"	*50.0*		*94.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.6*		"	*50.0*		*105*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23049 - EPA 5030B											
Matrix Spike Dup (0C23049-MSD1)			**Source: 2003164-01**								
Benzene	3/20/20 18:45	23.2	5.00	ug/L	20.0	ND	116	83.5-141	3.64	35	
Ethylbenzene	3/20/20 18:45	23.0	5.00	"	20.0	ND	115	62.1-158	11.2	35	
Surrogate: Dibromofluoromethane		*51.4*		*"*	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.5*		*"*	*50.0*		*99.0*	*70-130*			
Surrogate: Toluene-d8		*46.5*		*"*	*50.0*		*93.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.5*		*"*	*50.0*		*101*	*70-130*			
Batch 0C25028 - EPA 5030B											
Blank (0C25028-BLK1)											
Benzene	3/24/20 8:58	ND	5.00	ug/L							
Ethylbenzene	3/24/20 8:58	ND	5.00	"							
Surrogate: Dibromofluoromethane		*52.5*		*"*	*50.0*		*105*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.9*		*"*	*50.0*		*99.9*	*70-130*			
Surrogate: Toluene-d8		*46.5*		*"*	*50.0*		*93.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.1*		*"*	*50.0*		*98.2*	*70-130*			
LCS (0C25028-BS1)											
Benzene	3/24/20 9:27	22.0	5.00	ug/L	20.0		110	79.8-135			
Ethylbenzene	3/24/20 9:27	24.2	5.00	"	20.0		121	79.9-137			
Surrogate: Dibromofluoromethane		*52.8*		*"*	*50.0*		*106*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.0*		*"*	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8		*51.8*		*"*	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.1*		*"*	*50.0*		*102*	*70-130*			
LCS Dup (0C25028-BSD1)											
Benzene	3/24/20 9:54	21.2	5.00	ug/L	20.0		106	79.8-135	3.62	30	
Ethylbenzene	3/24/20 9:54	20.7	5.00	"	20.0		103	79.9-137	15.9	30	
Surrogate: Dibromofluoromethane		*52.9*		*"*	*50.0*		*106*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.0*		*"*	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8		*44.0*		*"*	*50.0*		*87.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*45.5*		*"*	*50.0*		*91.0*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25028 - EPA 5030B											
Matrix Spike (0C25028-MS1)			**Source: 2003309-01**								
Benzene	3/24/20 17:35	24.0	5.00	ug/L	20.0	ND	120	83.5-141			
Ethylbenzene	3/24/20 17:35	22.1	5.00	"	20.0	ND	110	62.1-158			
Surrogate: Dibromofluoromethane		*53.5*		*"*	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.2*		*"*	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8		*46.8*		*"*	*50.0*		*93.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*47.7*		*"*	*50.0*		*95.3*	*70-130*			
Matrix Spike Dup (0C25028-MSD1)			**Source: 2003309-01**								
Benzene	3/24/20 18:02	22.9	5.00	ug/L	20.0	ND	115	83.5-141	4.64	35	
Ethylbenzene	3/24/20 18:02	21.7	5.00	"	20.0	ND	109	62.1-158	1.51	35	
Surrogate: Dibromofluoromethane		*52.6*		*"*	*50.0*		*105*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.1*		*"*	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8		*46.5*		*"*	*50.0*		*93.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.9*		*"*	*50.0*		*99.7*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:17

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2020*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2020*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project:	Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number:	[none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager:	Ethan Allen	04/08/2020 13:17

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Kristy L. Pierce	KLP
Sarah E. Tomek	SET
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2003241

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
×Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 1st QTR 2020
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	CHLORIDE NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:									
B-36	3-11-20/9:35	W	9	G	X	X	X	X	X
UG-2	3-11-20/10:06	W	9	G	X	X	X	X	X
RW-3B	3-11-20/10:30	W	9	G	X	X	X	X	X
RW-1	3-11-20/10:45	W	9	G	X	X	X	X	X
RW-35	3-11-20/13:30	W	7	G	X	X	X	X	X
RW-36	3-11-20/13:50	W	7	G	X	X	X	X	X
RW-37	3-11-20/14:10	W	7	G	X	X	X	X	X
RC-1	3-11-20/14:20	W	9	G	X	X	X	X	X
RC-1A	3-11-20/14:30	W	7	G	X	X	X	X	X
TBV#6386	3-11-20/9:35	W	2	G					X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? (Y) N Thermometer# 4 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		CMS	3-11-20	16:06
Received by	Sarah Tomek	Sarah Tomek	MM	3/11/2020	1160 C
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 2.0°c
client cooler #2 0.1°c
client cooler #3 0.9°c
cooler #351 1.2°c

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 08, 2020

Ethan Allen

Work Order # : 2003275

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/12/2020 16:02. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-65	2003275-01	Water	03/12/2020 09:20	*Jeff Gonsoulin*	03/12/2020 16:02
Mobile/B-101	2003275-02	Water	03/12/2020 10:00	*Jeff Gonsoulin*	03/12/2020 16:02
Mobile/B-60A	2003275-03	Water	03/12/2020 14:00	*Jeff Gonsoulin*	03/12/2020 16:02
Mobile/RC-3A	2003275-04	Water	03/12/2020 14:22	*Jeff Gonsoulin*	03/12/2020 16:02
Mobile/RC-2A	2003275-05	Water	03/12/2020 14:40	*Jeff Gonsoulin*	03/12/2020 16:02
Trip Blank TBV#6385	2003275-06	Water	03/12/2020 09:20	*Micro Methods*	03/12/2020 16:02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Sample Receipt Conditions

Date/Time Received: 3/12/2020 4:02:00PM
Received by: Stella S Kleist
Date/Time Logged: 3/13/2020 8:18:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 3.7 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Cooler ID: client cooler #2

Receipt Temperature: 0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:16

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Sample Receipt Comments-SET:
Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 04/08/2020 13:16

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

B-07 Possible Laboratory Contamination

Pentachlorophenol

0C16018-DUP1

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

B-07 Possible Laboratory Contamination

Bis(2-ethylhexyl)phthalate

0C16032-DUP1

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

Benzo (b) fluoranthene, Carbazole

2003275-01[Mobile/B-65], 2003275-02[Mobile/B-101], 2003275-03[Mobile/B-60A]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

Benzo (b) fluoranthene, Carbazole

0C16018-BS1, 0C16018-BSD1

M2 MS/MSD Recovery below acceptable limit.

Carbazole

0C16032-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Anthracene, Bis(2-ethylhexyl)phthalate

0C16018-DUP1, 0C16032-DUP1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

0C16032-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Terphenyl-dl4

0C16032-BLK1, 2003275-04[Mobile/RC-3A]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:16

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-65

2003275-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 04:17	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.104	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.135	*65.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.0938	*45.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**38.7**	0.500	mg/L	1.0	0C13024	DLW	03/13/2020 08:21	03/13/2020 11:02	SM 4110B 2011	
Nitrate as N	**2.35**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:22	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C16030	ABT	03/16/2020 09:40	03/18/2020 17:32	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.6	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	03/19/2020 20:45	EPA 8270D	
Acenaphthylene	ND	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.6	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-65

2003275-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Phenanthrene	ND	10.6	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	19.9	*94.3 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	6.85	*64.7 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	8.98	*42.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	6.69	*63.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	5.93	*28.0 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	6.55	*61.9 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 20:45	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	19.9	*94.3 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	8.98	*42.5 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	5.93	*28.0 %*	*16.1-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C26032	BSF	03/25/2020 08:00	03/26/2020 02:11	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	43.2	*86.4 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.0	*94.1 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	51.6	*103 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.1	*94.2 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-101

2003275-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 04:59	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0729	*35.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.104	*50.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.0729	*35.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**29.5**	0.500	mg/L	1.0	0C13024	DLW	03/13/2020 08:21	03/13/2020 11:20	SM 4110B 2011	
Nitrate as N	**1.45**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:23	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C16030	ABT	03/16/2020 09:40	03/18/2020 17:40	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-101

2003275-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.2	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	03/19/2020 21:22	EPA 8270D	
Acenaphthylene	ND	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	18.2	*89.2 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	6.48	*63.5 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	7.82	*38.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	5.84	*57.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	4.84	*23.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	6.92	*67.8 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 21:22	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	18.2	*89.2 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	7.82	*38.3 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	4.84	*23.7 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-101

2003275-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C26032	BSF	03/25/2020 08:00	03/26/2020 02:35	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	42.7	*85.4 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.8	*93.6 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	51.0	*102 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.2	*98.4 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-60A

2003275-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C17030	CRLV	03/17/2020 08:48	03/18/2020 05:40	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0856	*40.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.128	*60.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.0856	*40.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**17.8**	0.500	mg/L	1.0	0C13024	DLW	03/13/2020 08:21	03/13/2020 11:38	SM 4110B 2011	
Nitrate as N	**3.07**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:24	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00288**	0.00200	mg/L	1.0	0C16030	ABT	03/16/2020 09:40	03/18/2020 18:26	EPA 200.8 Rev 5.4	
Chromium [He]	**1.29**	0.00200	"	2.0	"	ABT	"	03/19/2020 17:47	"	
Lead [He]	**0.0106**	0.00100	"	1.0	"	ABT	"	03/18/2020 18:26	"	
Nickel [He]	**0.421**	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-60A

2003275-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.6	ug/L	1.0	0C16018	CRLV	03/16/2020 09:10	03/19/2020 22:00	EPA 8270D	
Acenaphthylene	ND	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.6	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.6	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	12.8	*60.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	4.23	*40.0 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	5.35	*25.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.07	*38.5 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	3.74	*17.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	3.43	*32.4 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0C16018	CRLV	"	03/19/2020 22:00	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	12.8	*60.4 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	5.35	*25.3 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	3.74	*17.7 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/B-60A

2003275-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C26032	BSF	03/25/2020 08:00	03/26/2020 02:58	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	42.5	*85.1 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.0	*93.9 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	51.7	*103 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.2	*96.4 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/RC-3A

2003275-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**92.5**	2.50	mg/L	5.0	0C13024	DLW	03/13/2020 08:21	03/13/2020 15:00	SM 4110B 2011	
Nitrate as N	**0.963**	0.500	"	1.0	"	DLW	"	03/13/2020 11:56	"	
Ammonia as N	**0.54**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:25	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C16030	ABT	03/16/2020 09:40	03/18/2020 18:34	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**138**	53.2	ug/L	5.0	0C16032	CRLV	03/17/2020 12:15	04/06/2020 20:02	EPA 8270D	
Acenaphthylene	ND	10.6	"	1.0	"	CRLV	"	04/02/2020 08:38	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	**16.6**	10.6	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	**47.6**	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	**26.9**	10.6	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.6	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/RC-3A

2003275-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	117	*110 %*	*13.3-115*		*0C16032*	CRLV	*03/17/2020 12:15*	"	"	
2-Fluorobiphenyl	38.4	*72.3 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	78.2	*73.5 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	41.8	*78.7 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	78.6	*73.9 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	59.3	*111 %*	*10-110*		"	CRLV	"	"	"	*SR06*
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C26032	BSF	03/25/2020 08:00	03/26/2020 03:21	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	42.6	*85.2 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.5	*93.0 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	51.5	*103 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	48.4	*96.7 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/RC-2A

2003275-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**50.9**	1.00	mg/L	2.0	0C13024	DLW	03/13/2020 08:21	03/13/2020 15:17	SM 4110B 2011	
Nitrate as N	**1.62**	0.500	"	1.0	"	DLW	"	03/13/2020 12:13	"	
Ammonia as N	**0.49**	0.21	"	"	0C24043	AKL	03/23/2020 11:19	03/24/2020 11:26	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C16030	ABT	03/16/2020 09:40	03/18/2020 18:42	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**277**	101	ug/L	10.0	0C16032	CRLV	03/17/2020 12:15	04/02/2020 13:55	EPA 8270D	
Acenaphthylene	ND	10.1	"	1.0	"	CRLV	"	04/02/2020 09:12	"	
Anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.1	"	"	"	CRLV	"	"	"	
Carbazole	**296**	101	"	10.0	"	CRLV	"	04/02/2020 13:55	"	
4-Chloro-3-methylphenol	ND	10.1	"	1.0	"	CRLV	"	04/02/2020 09:12	"	
Chrysene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenzofuran	**105**	101	"	10.0	"	CRLV	"	04/02/2020 13:55	"	
2,4-Dimethylphenol	ND	10.1	"	1.0	"	CRLV	"	04/02/2020 09:12	"	
2,4-Dinitrophenol	ND	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.1	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Fluorene	**130**	101	"	10.0	"	CRLV	"	04/02/2020 13:55	"	
Indeno (1,2,3-cd) pyrene	ND	10.1	"	1.0	"	CRLV	"	04/02/2020 09:12	"	
2-Methylnaphthalene	ND	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	**80.4**	10.1	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	**120**	10.1	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.1	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Mobile/RC-2A

2003275-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	92.9	*91.9 %*	*13.3-115*		*0C16032*	CRLV	*03/17/2020 12:15*	"	"	
2-Fluorobiphenyl	32.6	*64.6 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	66.7	*66.1 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	35.5	*70.3 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	69.6	*68.9 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	41.9	*82.9 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C26032	BSF	03/25/2020 08:00	03/26/2020 03:45	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	42.9	*85.8 %*	*70-130*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.3	*92.6 %*	*70-130*		"	BSF	"	"	"	
Toluene-d8	49.9	*99.8 %*	*70-130*		"	BSF	"	"	"	
4-Bromofluorobenzene	48.1	*96.2 %*	*70-130*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Trip Blank TBV#6385

2003275-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C26032	BSF	03/25/2020 08:00	03/26/2020 04:09	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	42.8	*85.5 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.8	*93.6 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	49.8	*99.5 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.8	*95.6 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
Blank (0C17030-BLK1)											
Benzo (a) pyrene	3/17/20 21:25	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		"	*0.200*		*85.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.150*		"	*0.200*		*75.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
LCS (0C17030-BS1)											
Benzo (a) pyrene	3/17/20 22:06	0.17	0.06	ug/L	0.200		85.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		"	*0.200*		*85.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.130*		"	*0.200*		*65.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C17030-BSD1)											
Benzo (a) pyrene	3/17/20 22:47	0.13	0.06	ug/L	0.200		65.0	10-149	26.7	40	
Surrogate: 2-Fluorobiphenyl		*0.160*		"	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		"	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.140*		"	*0.200*		*70.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C17030 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C17030-DUP1)			**Source: 2003208-03**								
Benzo (a) pyrene	3/18/20 0:51	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.115*		*"*	*0.208*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.146*		*"*	*0.208*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0938*		*"*	*0.208*		*45.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C13024 - Default Prep GenChem											
Blank (0C13024-BLK1)											
Chloride	3/13/20 10:26	ND	0.500	mg/L							
Nitrate as N	3/13/20 10:26	ND	0.500	"							
LCS (0C13024-BS1)											
Chloride	3/13/20 9:50	2.85	0.500	mg/L	3.00		94.9	81.8-111			
Nitrate as N	3/13/20 9:50	2.26	0.500	"	2.26		100	81.1-113			
LCS Dup (0C13024-BSD1)											
Chloride	3/13/20 10:08	2.83	0.500	mg/L	3.00		94.5	81.8-111	0.493	20	
Nitrate as N	3/13/20 10:08	2.26	0.500	"	2.26		99.9	81.1-113	0.177	20	
Duplicate (0C13024-DUP1)			**Source: 2003275-03**								
Chloride	3/13/20 12:49	17.8	0.500	mg/L		17.8			0.0450	20	
Nitrate as N	3/13/20 12:49	3.10	0.500	"		3.07			0.972	20	
Matrix Spike (0C13024-MS1)			**Source: 2003275-03**								
Chloride	3/13/20 13:06	115	10.0	mg/L	100	17.8	97.6	75.3-124			
Nitrate as N	3/13/20 13:06	25.4	10.0	"	22.6	3.07	98.7	58.5-131			
Matrix Spike Dup (0C13024-MSD1)			**Source: 2003275-03**								
Chloride	3/13/20 13:24	115	10.0	mg/L	100	17.8	97.6	75.3-124	0.0173	20	
Nitrate as N	3/13/20 13:24	25.2	10.0	"	22.6	3.07	97.8	58.5-131	0.791	20	
Batch 0C24043 - Default Prep GenChem											
Blank (0C24043-BLK1)											
Ammonia as N	3/24/20 10:50	ND	0.21	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24043 - Default Prep GenChem											
Blank (0C24043-BLK2)											
Ammonia as N	3/24/20 11:45	ND	0.21	mg/L							
LCS (0C24043-BS1)											
Ammonia as N	3/24/20 10:53	5.30	0.21	mg/L				90-110			
LCS (0C24043-BS2)											
Ammonia as N	3/24/20 11:49	4.95	0.21	mg/L				90-110			
LCS Dup (0C24043-BSD1)											
Ammonia as N	3/24/20 10:56	5.36	0.21	mg/L				90-110	1.13	10	
LCS Dup (0C24043-BSD2)											
Ammonia as N	3/24/20 11:52	5.00	0.21	mg/L				90-110	1.01	10	
Matrix Spike (0C24043-MS1)			**Source: 2003241-01**								
Ammonia as N	3/24/20 11:04	4.80	0.21	mg/L		ND		90-110			
Matrix Spike (0C24043-MS2)			**Source: 2003341-01**								
Ammonia as N	3/24/20 11:58	4.73	0.21	mg/L		ND		90-110			
Matrix Spike Dup (0C24043-MSD1)			**Source: 2003241-01**								
Ammonia as N	3/24/20 11:06	4.68	0.21	mg/L		ND		90-110	2.53	10	
Matrix Spike Dup (0C24043-MSD2)			**Source: 2003341-01**								
Ammonia as N	3/24/20 12:00	4.81	0.21	mg/L		ND		90-110	1.68	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16030 - EPA 200.2 DCN 1017 Rev 9											
Blank (0C16030-BLK1)											
Arsenic [HHe]	3/17/20 2:34	ND	0.00200	mg/L							
Chromium [He]	3/17/20 2:34	ND	0.00100	"							
Lead [He]	3/17/20 2:34	ND	0.00100	"							
Nickel [He]	3/17/20 2:34	ND	0.0400	"							
LCS (0C16030-BS1)											
Arsenic [HHe]	3/17/20 2:41	0.102	0.00200	mg/L	0.100		102	85-115			
Chromium [He]	3/17/20 2:41	0.106	0.00100	"	0.100		106	85-115			
Lead [He]	3/17/20 2:41	0.103	0.00100	"	0.100		103	85-115			
Nickel [He]	3/17/20 2:41	0.105	0.0400	"	0.100		105	85-115			
LCS Dup (0C16030-BSD1)											
Arsenic [HHe]	3/17/20 2:49	0.103	0.00200	mg/L	0.100		103	85-115	0.911	20	
Chromium [He]	3/17/20 2:49	0.104	0.00100	"	0.100		104	85-115	2.63	20	
Lead [He]	3/17/20 2:49	0.099	0.00100	"	0.100		99.4	85-115	3.77	20	
Nickel [He]	3/17/20 2:49	0.101	0.0400	"	0.100		101	85-115	3.65	20	
Matrix Spike (0C16030-MS1)			**Source: 2003267-01**								
Arsenic [HHe]	3/18/20 1:40	0.094	0.00200	mg/L	0.100	ND	94.1	70-130			
Chromium [He]	3/18/20 1:40	0.090	0.00100	"	0.100	ND	90.4	70-130			
Lead [He]	3/18/20 1:40	0.095	0.00100	"	0.100	ND	94.6	70-130			
Nickel [He]	3/18/20 1:40	0.094	0.0400	"	0.100	0.0004	93.3	70-130			
Matrix Spike Dup (0C16030-MSD1)			**Source: 2003267-01**								
Arsenic [HHe]	3/18/20 1:47	0.098	0.00200	mg/L	0.100	ND	98.0	70-130	4.09	20	
Chromium [He]	3/18/20 1:47	0.092	0.00100	"	0.100	ND	92.4	70-130	2.20	20	
Lead [He]	3/18/20 1:47	0.099	0.00100	"	0.100	ND	99.1	70-130	4.60	20	
Nickel [He]	3/18/20 1:47	0.095	0.0400	"	0.100	0.0004	94.9	70-130	1.70	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Blank (0C16018-BLK1)											
Acenaphthene	3/23/20 10:36	ND	10.0	ug/L							
Acenaphthylene	3/23/20 10:36	ND	10.0	"							
Anthracene	3/23/20 10:36	ND	10.0	"							
Benzo (a) anthracene	3/23/20 10:36	ND	10.0	"							
Benzo (b) fluoranthene	3/23/20 10:36	ND	10.0	"							
Benzo (k) fluoranthene	3/23/20 10:36	ND	10.0	"							
Benzo (a) pyrene	3/23/20 10:36	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/23/20 10:36	ND	10.0	"							
Carbazole	3/23/20 10:36	ND	10.0	"							
4-Chloro-3-methylphenol	3/23/20 10:36	ND	10.0	"							
Chrysene	3/23/20 10:36	ND	10.0	"							
Dibenz (a,h) anthracene	3/23/20 10:36	ND	10.0	"							
Dibenzofuran	3/23/20 10:36	ND	10.0	"							
2,4-Dimethylphenol	3/23/20 10:36	ND	10.0	"							
2,4-Dinitrophenol	3/23/20 10:36	ND	10.0	"							
Di-n-octyl phthalate	3/23/20 10:36	ND	10.0	"							
Fluoranthene	3/23/20 10:36	ND	10.0	"							
Fluorene	3/23/20 10:36	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/23/20 10:36	ND	10.0	"							
2-Methylnaphthalene	3/23/20 10:36	ND	10.0	"							
2-Methylphenol	3/23/20 10:36	ND	10.0	"							
3 & 4-Methylphenol	3/23/20 10:36	ND	10.0	"							
Naphthalene	3/23/20 10:36	ND	10.0	"							
Pentachlorophenol	3/23/20 10:36	ND	10.0	"							
Phenanthrene	3/23/20 10:36	ND	10.0	"							
Pyrene	3/23/20 10:36	ND	10.0	"							
2,4,6-Trichlorophenol	3/23/20 10:36	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*17.1*		*"*	*30.0*		*57.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*11.5*		*"*	*15.0*		*76.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*19.9*		*"*	*30.0*		*66.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*9.40*		*"*	*15.0*		*62.7*	*10-103*			
Surrogate: Phenol-d5		*19.9*		*"*	*30.0*		*66.3*	*10-105*			
Surrogate: Terphenyl-dl4		*12.2*		*"*	*15.0*		*81.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
LCS (0C16018-BS1)											
Acenaphthene	3/19/20 15:47	13.2	10.0	ug/L	20.0		65.9	45.5-108			
Acenaphthylene	3/19/20 15:47	12.9	10.0	"	20.0		64.4	46.4-114			
Anthracene	3/19/20 15:47	14.0	10.0	"	20.0		69.8	47-106			
Benzo (a) anthracene	3/19/20 15:47	13.6	10.0	"	20.0		67.9	50.8-105			
Benzo (b) fluoranthene	3/19/20 15:47	10.2	10.0	"	20.0		51.2	47-109			CC-03
Benzo (k) fluoranthene	3/19/20 15:47	11.2	10.0	"	20.0		56.2	44-111			
Benzo (a) pyrene	3/19/20 15:47	14.7	10.0	"	20.0		73.6	52.9-103			
Bis(2-ethylhexyl)phthalate	3/19/20 15:47	16.6	10.0	"	20.0		82.9	36.4-121			
Carbazole	3/19/20 15:47	13.5	10.0	"	20.0		67.5	25-172			CC-03
4-Chloro-3-methylphenol	3/19/20 15:47	13.0	10.0	"	20.0		65.1	46.4-108			
Chrysene	3/19/20 15:47	13.1	10.0	"	20.0		65.3	46.6-100			
Dibenz (a,h) anthracene	3/19/20 15:47	16.6	10.0	"	20.0		83.1	46.7-102			
Dibenzofuran	3/19/20 15:47	12.7	10.0	"	20.0		63.6	45.8-105			
2,4-Dimethylphenol	3/19/20 15:47	8.81	10.0	"	20.0		44.1	41.6-101			
2,4-Dinitrophenol	3/19/20 15:47	9.10	10.0	"	20.0		45.5	10-131			
Di-n-octyl phthalate	3/19/20 15:47	14.3	10.0	"	20.0		71.4	38.6-123			
Fluoranthene	3/19/20 15:47	12.5	10.0	"	20.0		62.5	44.9-114			
Fluorene	3/19/20 15:47	13.1	10.0	"	20.0		65.6	45.6-107			
Indeno (1,2,3-cd) pyrene	3/19/20 15:47	16.9	10.0	"	20.0		84.6	45.8-104			
2-Methylnaphthalene	3/19/20 15:47	12.5	10.0	"	20.0		62.4	44.2-104			
2-Methylphenol	3/19/20 15:47	11.2	10.0	"	20.0		56.0	44.5-103			
3 & 4-Methylphenol	3/19/20 15:47	23.8	10.0	"	40.0		59.5	11-149			
Naphthalene	3/19/20 15:47	12.4	10.0	"	20.0		61.9	45-100			
Pentachlorophenol	3/19/20 15:47	12.5	10.0	"	20.0		62.3	17.4-124			
Phenanthrene	3/19/20 15:47	13.3	10.0	"	20.0		66.7	49.2-107			
Pyrene	3/19/20 15:47	11.0	10.0	"	20.0		54.9	31.7-124			
2,4,6-Trichlorophenol	3/19/20 15:47	13.5	10.0	"	20.0		67.4	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*21.7*		*"*	*30.0*		*72.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*9.02*		*"*	*15.0*		*60.1*	*14.7-104*			
Surrogate: 2-Fluorophenol		*17.7*		*"*	*30.0*		*58.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*9.12*		*"*	*15.0*		*60.8*	*10-103*			
Surrogate: Phenol-d5		*17.9*		*"*	*30.0*		*59.8*	*10-105*			
Surrogate: Terphenyl-dl4		*9.54*		*"*	*15.0*		*63.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C16018-BSD1)											
Acenaphthene	3/23/20 11:14	10.9	10.0	ug/L	20.0		54.6	45.5-108	18.8	40	
Acenaphthylene	3/23/20 11:14	10.5	10.0	"	20.0		52.7	46.4-114	19.9	40	
Anthracene	3/23/20 11:14	12.2	10.0	"	20.0		60.9	47-106	13.6	40	
Benzo (a) anthracene	3/23/20 11:14	12.7	10.0	"	20.0		63.5	50.8-105	6.70	40	
Benzo (b) fluoranthene	3/23/20 11:14	13.7	10.0	"	20.0		68.3	47-109	28.7	40	CC-03
Benzo (k) fluoranthene	3/23/20 11:14	14.2	10.0	"	20.0		70.9	44-111	23.1	40	
Benzo (a) pyrene	3/23/20 11:14	13.6	10.0	"	20.0		68.0	52.9-103	7.98	40	
Bis(2-ethylhexyl)phthalate	3/23/20 11:14	12.2	10.0	"	20.0		60.9	36.4-121	30.5	40	
Carbazole	3/23/20 11:14	11.4	10.0	"	20.0		56.8	25-172	17.3	40	CC-03
4-Chloro-3-methylphenol	3/23/20 11:14	11.2	10.0	"	20.0		55.8	46.4-108	15.4	40	
Chrysene	3/23/20 11:14	13.0	10.0	"	20.0		65.0	46.6-100	0.460	40	
Dibenz (a,h) anthracene	3/23/20 11:14	13.1	10.0	"	20.0		65.4	46.7-102	23.8	40	
Dibenzofuran	3/23/20 11:14	10.8	10.0	"	20.0		53.9	45.8-105	16.4	40	
2,4-Dimethylphenol	3/23/20 11:14	10.2	10.0	"	20.0		51.1	41.6-101	14.8	40	
2,4-Dinitrophenol	3/23/20 11:14	9.21	10.0	"	20.0		46.1	10-131	1.20	40	
Di-n-octyl phthalate	3/23/20 11:14	13.5	10.0	"	20.0		67.4	38.6-123	5.76	40	
Fluoranthene	3/23/20 11:14	11.9	10.0	"	20.0		59.5	44.9-114	4.84	40	
Fluorene	3/23/20 11:14	11.3	10.0	"	20.0		56.3	45.6-107	15.2	40	
Indeno (1,2,3-cd) pyrene	3/23/20 11:14	13.0	10.0	"	20.0		65.1	45.8-104	26.1	40	
2-Methylnaphthalene	3/23/20 11:14	10.8	10.0	"	20.0		53.8	44.2-104	14.7	40	
2-Methylphenol	3/23/20 11:14	10.4	10.0	"	20.0		52.0	44.5-103	7.41	40	
3 & 4-Methylphenol	3/23/20 11:14	20.8	10.0	"	40.0		52.1	11-149	13.2	40	
Naphthalene	3/23/20 11:14	10.4	10.0	"	20.0		52.1	45-100	17.3	40	
Pentachlorophenol	3/23/20 11:14	9.56	10.0	"	20.0		47.8	17.4-124	26.3	40	
Phenanthrene	3/23/20 11:14	11.5	10.0	"	20.0		57.7	49.2-107	14.6	40	
Pyrene	3/23/20 11:14	11.1	10.0	"	20.0		55.6	31.7-124	1.36	40	
2,4,6-Trichlorophenol	3/23/20 11:14	10.9	10.0	"	20.0		54.4	41.7-110	21.4	40	
Surrogate: 2,4,6-Tribromophenol		*18.7*		*"*	*30.0*		*62.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*7.60*		*"*	*15.0*		*50.7*	*14.7-104*			
Surrogate: 2-Fluorophenol		*14.5*		*"*	*30.0*		*48.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*7.39*		*"*	*15.0*		*49.3*	*10-103*			
Surrogate: Phenol-d5		*14.8*		*"*	*30.0*		*49.4*	*10-105*			
Surrogate: Terphenyl-dl4		*8.29*		*"*	*15.0*		*55.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C16018-DUP1)			**Source: 2003208-01**								
Acenaphthene	3/25/20 14:58	136	109	ug/L		129			5.21	45	
Acenaphthylene	3/19/20 22:37	ND	10.9	"		ND				45	
Anthracene	3/19/20 22:37	15.3	10.9	"		29.2			62.3	45	P3
Benzo (a) anthracene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (b) fluoranthene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (k) fluoranthene	3/19/20 22:37	ND	10.9	"		ND				45	
Benzo (a) pyrene	3/19/20 22:37	ND	10.9	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/19/20 22:37	ND	10.9	"		ND				45	
Carbazole	3/25/20 14:58	38.4	109	"		36.8			4.09	45	
4-Chloro-3-methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
Chrysene	3/19/20 22:37	ND	10.9	"		ND				45	
Dibenz (a,h) anthracene	3/19/20 22:37	ND	10.9	"		ND				45	
Dibenzofuran	3/25/20 14:58	60.5	109	"		67.4			10.8	45	
2,4-Dimethylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
2,4-Dinitrophenol	3/19/20 22:37	ND	10.9	"		ND				45	
Di-n-octyl phthalate	3/19/20 22:37	ND	10.9	"		ND				45	
Fluoranthene	3/25/20 14:58	80.1	109	"		64.9			20.9	45	
Fluorene	3/25/20 14:58	103	109	"		94.9			8.06	45	
Indeno (1,2,3-cd) pyrene	3/19/20 22:37	ND	10.9	"		ND				45	
2-Methylnaphthalene	3/19/20 22:37	ND	10.9	"		ND				45	
2-Methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
3 & 4-Methylphenol	3/19/20 22:37	ND	10.9	"		ND				45	
Naphthalene	3/19/20 22:37	ND	10.9	"		ND				45	
Pentachlorophenol	3/25/20 14:58	ND	10.9	"		ND				45	
Phenanthrene	3/25/20 14:58	169	109	"		137			20.8	45	
Pyrene	3/25/20 14:58	40.5	109	"		34.1			17.3	45	
2,4,6-Trichlorophenol	3/19/20 22:37	ND	10.9	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*21.2*		*"*	*21.7*		*97.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*6.21*		*"*	*10.9*		*57.1*	*14.7-104*			
Surrogate: 2-Fluorophenol		*7.91*		*"*	*21.7*		*36.4*	*10-100*			
Surrogate: Nitrobenzene-d5		*5.50*		*"*	*10.9*		*50.6*	*10-103*			
Surrogate: Phenol-d5		*5.05*		*"*	*21.7*		*23.3*	*10-105*			
Surrogate: Terphenyl-dl4		*11.4*		*"*	*10.9*		*105*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Blank (0C16032-BLK1)											
Acenaphthene	4/1/20 8:59	ND	10.0	ug/L							
Acenaphthylene	4/1/20 8:59	ND	10.0	"							
Anthracene	4/1/20 8:59	ND	10.0	"							
Benzo (a) anthracene	4/1/20 8:59	ND	10.0	"							
Benzo (b) fluoranthene	4/1/20 8:59	ND	10.0	"							
Benzo (k) fluoranthene	4/1/20 8:59	ND	10.0	"							
Benzo (a) pyrene	4/1/20 8:59	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	4/1/20 8:59	ND	10.0	"							
Carbazole	4/1/20 8:59	ND	10.0	"							
4-Chloro-3-methylphenol	4/1/20 8:59	ND	10.0	"							
Chrysene	4/1/20 8:59	ND	10.0	"							
Dibenz (a,h) anthracene	4/1/20 8:59	ND	10.0	"							
Dibenzofuran	4/1/20 8:59	ND	10.0	"							
2,4-Dimethylphenol	4/1/20 8:59	ND	10.0	"							
2,4-Dinitrophenol	4/1/20 8:59	ND	10.0	"							
Di-n-octyl phthalate	4/1/20 8:59	ND	10.0	"							
Fluoranthene	4/1/20 8:59	ND	10.0	"							
Fluorene	4/1/20 8:59	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	4/1/20 8:59	ND	10.0	"							
2-Methylnaphthalene	4/1/20 8:59	ND	10.0	"							
2-Methylphenol	4/1/20 8:59	ND	10.0	"							
3 & 4-Methylphenol	4/1/20 8:59	ND	10.0	"							
Naphthalene	4/1/20 8:59	ND	10.0	"							
Pentachlorophenol	4/1/20 8:59	ND	10.0	"							
Phenanthrene	4/1/20 8:59	ND	10.0	"							
Pyrene	4/1/20 8:59	ND	10.0	"							
2,4,6-Trichlorophenol	4/1/20 8:59	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*109*		*"*	*100*		*109*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*37.2*		*"*	*50.0*		*74.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*69.6*		*"*	*100*		*69.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*41.1*		*"*	*50.0*		*82.2*	*10-103*			
Surrogate: Phenol-d5		*75.8*		*"*	*100*		*75.8*	*10-105*			
Surrogate: Terphenyl-dl4		*56.7*		*"*	*50.0*		*113*	*10-110*			*SR06*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
LCS (0C16032-BS1)											
Acenaphthene	4/1/20 10:41	76.0	20.0	ug/L	100		76.0	45.5-108			
Acenaphthylene	4/1/20 10:41	78.2	20.0	"	100		78.2	46.4-114			
Anthracene	4/1/20 10:41	70.5	20.0	"	100		70.5	47-106			
Benzo (a) anthracene	4/1/20 10:41	78.3	20.0	"	100		78.3	50.8-105			
Benzo (b) fluoranthene	4/1/20 10:41	81.5	20.0	"	100		81.5	47-109			
Benzo (k) fluoranthene	4/1/20 10:41	93.4	20.0	"	100		93.4	44-111			
Benzo (a) pyrene	4/1/20 10:41	83.2	20.0	"	100		83.2	52.9-103			
Bis(2-ethylhexyl)phthalate	4/1/20 10:41	63.5	20.0	"	100		63.5	36.4-121			
Carbazole	4/1/20 10:41	107	20.0	"	100		107	25-172			
4-Chloro-3-methylphenol	4/1/20 10:41	84.4	20.0	"	100		84.4	46.4-108			
Chrysene	4/1/20 10:41	78.7	20.0	"	100		78.7	46.6-100			
Dibenz (a,h) anthracene	4/1/20 10:41	80.6	20.0	"	100		80.6	46.7-102			
Dibenzofuran	4/1/20 10:41	71.3	20.0	"	100		71.3	45.8-105			
2,4-Dimethylphenol	4/1/20 10:41	63.2	20.0	"	100		63.2	41.6-101			
2,4-Dinitrophenol	4/1/20 10:41	57.3	20.0	"	100		57.3	10-131			
Di-n-octyl phthalate	4/1/20 10:41	81.9	20.0	"	100		81.9	38.6-123			
Fluoranthene	4/1/20 10:41	81.1	20.0	"	100		81.1	44.9-114			
Fluorene	4/1/20 10:41	78.2	20.0	"	100		78.2	45.6-107			
Indeno (1,2,3-cd) pyrene	4/1/20 10:41	77.4	20.0	"	100		77.4	45.8-104			
2-Methylnaphthalene	4/1/20 10:41	71.7	20.0	"	100		71.7	44.2-104			
2-Methylphenol	4/1/20 10:41	73.9	20.0	"	100		73.9	44.5-103			
3 & 4-Methylphenol	4/1/20 10:41	157	20.0	"	200		78.4	11-149			
Naphthalene	4/1/20 10:41	78.9	20.0	"	100		78.9	45-100			
Pentachlorophenol	4/1/20 10:41	62.4	20.0	"	100		62.4	17.4-124			
Phenanthrene	4/1/20 10:41	77.0	20.0	"	100		77.0	49.2-107			
Pyrene	4/1/20 10:41	71.0	20.0	"	100		71.0	31.7-124			
2,4,6-Trichlorophenol	4/1/20 10:41	76.7	20.0	"	100		76.7	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*79.6*		*"*	*100*		*79.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.2*		*"*	*50.0*		*70.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*67.2*		*"*	*100*		*67.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*39.4*		*"*	*50.0*		*78.8*	*10-103*			
Surrogate: Phenol-d5		*77.1*		*"*	*100*		*77.1*	*10-105*			
Surrogate: Terphenyl-dl4		*28.1*		*"*	*50.0*		*56.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0C16032-BSD1)											
Acenaphthene	4/1/20 11:16	76.7	20.0	ug/L	100		76.7	45.5-108	0.891	40	
Acenaphthylene	4/1/20 11:16	78.1	20.0	"	100		78.1	46.4-114	0.128	40	
Anthracene	4/1/20 11:16	70.4	20.0	"	100		70.4	47-106	0.142	40	
Benzo (a) anthracene	4/1/20 11:16	69.2	20.0	"	100		69.2	50.8-105	12.3	40	
Benzo (b) fluoranthene	4/1/20 11:16	84.4	20.0	"	100		84.4	47-109	3.42	40	
Benzo (k) fluoranthene	4/1/20 11:16	90.1	20.0	"	100		90.1	44-111	3.57	40	
Benzo (a) pyrene	4/1/20 11:16	81.5	20.0	"	100		81.5	52.9-103	2.11	40	
Bis(2-ethylhexyl)phthalate	4/1/20 11:16	66.0	20.0	"	100		66.0	36.4-121	3.89	40	
Carbazole	4/1/20 11:16	112	20.0	"	100		112	25-172	5.05	40	
4-Chloro-3-methylphenol	4/1/20 11:16	80.7	20.0	"	100		80.7	46.4-108	4.53	40	
Chrysene	4/1/20 11:16	75.0	20.0	"	100		75.0	46.6-100	4.89	40	
Dibenz (a,h) anthracene	4/1/20 11:16	76.3	20.0	"	100		76.3	46.7-102	5.48	40	
Dibenzofuran	4/1/20 11:16	71.9	20.0	"	100		71.9	45.8-105	0.754	40	
2,4-Dimethylphenol	4/1/20 11:16	68.4	20.0	"	100		68.4	41.6-101	7.87	40	
2,4-Dinitrophenol	4/1/20 11:16	58.1	20.0	"	100		58.1	10-131	1.32	40	
Di-n-octyl phthalate	4/1/20 11:16	84.4	20.0	"	100		84.4	38.6-123	2.98	40	
Fluoranthene	4/1/20 11:16	83.8	20.0	"	100		83.8	44.9-114	3.30	40	
Fluorene	4/1/20 11:16	69.6	20.0	"	100		69.6	45.6-107	11.6	40	
Indeno (1,2,3-cd) pyrene	4/1/20 11:16	76.1	20.0	"	100		76.1	45.8-104	1.72	40	
2-Methylnaphthalene	4/1/20 11:16	67.7	20.0	"	100		67.7	44.2-104	5.74	40	
2-Methylphenol	4/1/20 11:16	72.2	20.0	"	100		72.2	44.5-103	2.30	40	
3 & 4-Methylphenol	4/1/20 11:16	149	20.0	"	200		74.7	11-149	4.84	40	
Naphthalene	4/1/20 11:16	72.8	20.0	"	100		72.8	45-100	8.01	40	
Pentachlorophenol	4/1/20 11:16	64.0	20.0	"	100		64.0	17.4-124	2.50	40	
Phenanthrene	4/1/20 11:16	81.3	20.0	"	100		81.3	49.2-107	5.46	40	
Pyrene	4/1/20 11:16	68.1	20.0	"	100		68.1	31.7-124	4.20	40	
2,4,6-Trichlorophenol	4/1/20 11:16	71.8	20.0	"	100		71.8	41.7-110	6.68	40	
Surrogate: 2,4,6-Tribromophenol		*87.0*		"	*100*		*87.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.5*		"	*50.0*		*70.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*62.7*		"	*100*		*62.7*	*10-100*			
Surrogate: Nitrobenzene-d5		*37.5*		"	*50.0*		*75.1*	*10-103*			
Surrogate: Phenol-d5		*76.1*		"	*100*		*76.1*	*10-105*			
Surrogate: Terphenyl-dl4		*28.5*		"	*50.0*		*57.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0C16032-DUP1)			**Source: 2003250-01**								
Acenaphthene	4/1/20 10:07	ND	10.1	ug/L		ND				45	
Acenaphthylene	4/1/20 10:07	ND	10.1	"		ND				45	
Anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (a) anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (b) fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (k) fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Benzo (a) pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
Bis(2-ethylhexyl)phthalate	4/1/20 10:07	12.6	10.1	"		2.97			123	45	B-07, P3
Carbazole	4/1/20 10:07	ND	10.1	"		ND				45	
4-Chloro-3-methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
Chrysene	4/1/20 10:07	ND	10.1	"		ND				45	
Dibenz (a,h) anthracene	4/1/20 10:07	ND	10.1	"		ND				45	
Dibenzofuran	4/1/20 10:07	ND	10.1	"		ND				45	
2,4-Dimethylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
2,4-Dinitrophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Di-n-octyl phthalate	4/1/20 10:07	ND	10.1	"		ND				45	
Fluoranthene	4/1/20 10:07	ND	10.1	"		ND				45	
Fluorene	4/1/20 10:07	ND	10.1	"		ND				45	
Indeno (1,2,3-cd) pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
2-Methylnaphthalene	4/1/20 10:07	ND	10.1	"		ND				45	
2-Methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
3 & 4-Methylphenol	4/1/20 10:07	ND	10.1	"		ND				45	
Naphthalene	4/1/20 10:07	ND	10.1	"		ND				45	
Pentachlorophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Phenanthrene	4/1/20 10:07	ND	10.1	"		ND				45	
Pyrene	4/1/20 10:07	ND	10.1	"		ND				45	
2,4,6-Trichlorophenol	4/1/20 10:07	ND	10.1	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*120*		*"*	*101*		*119*	*13.3-115*			*SR05*
Surrogate: 2-Fluorobiphenyl		*34.0*		*"*	*50.5*		*67.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*68.6*		*"*	*101*		*68.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*40.9*		*"*	*50.5*		*81.1*	*10-103*			
Surrogate: Phenol-d5		*70.9*		*"*	*101*		*70.2*	*10-105*			
Surrogate: Terphenyl-dl4		*52.5*		*"*	*50.5*		*104*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16032 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (0C16032-MS1)			**Source: 2003250-01**								
Acenaphthene	4/1/20 11:50	87.7	20.3	ug/L	102	ND	86.4	21.2-106			
Acenaphthylene	4/1/20 11:50	34.8	20.3	"	102	ND	34.3	23.7-113			
Anthracene	4/1/20 11:50	64.9	20.3	"	102	ND	63.9	32.7-100			
Benzo (a) anthracene	4/1/20 11:50	67.4	20.3	"	102	ND	66.3	35.6-101			
Benzo (b) fluoranthene	4/1/20 11:50	87.0	20.3	"	102	ND	85.7	38.4-100			
Benzo (k) fluoranthene	4/1/20 11:50	89.6	20.3	"	102	ND	88.3	29.6-107			
Benzo (a) pyrene	4/1/20 11:50	45.1	20.3	"	102	ND	44.4	32.7-102			
Bis(2-ethylhexyl)phthalate	4/1/20 11:50	71.7	20.3	"	102	2.97	67.7	28.4-112			
Carbazole	4/1/20 11:50	25.2	20.3	"	102	ND	24.8	24.9-167			M2
4-Chloro-3-methylphenol	4/1/20 11:50	91.2	20.3	"	102	ND	89.9	20.7-115			
Chrysene	4/1/20 11:50	77.7	20.3	"	102	ND	76.5	30.8-100			
Dibenz (a,h) anthracene	4/1/20 11:50	77.9	20.3	"	102	ND	76.7	32.3-103			
Dibenzofuran	4/1/20 11:50	83.1	20.3	"	102	ND	81.9	29.1-105			
2,4-Dimethylphenol	4/1/20 11:50	89.0	20.3	"	102	ND	87.7	15.6-114			
2,4-Dinitrophenol	4/1/20 11:50	67.7	20.3	"	102	ND	66.7	10-110			
Di-n-octyl phthalate	4/1/20 11:50	92.2	20.3	"	102	ND	90.8	19.2-118			
Fluoranthene	4/1/20 11:50	84.5	20.3	"	102	ND	83.3	31.9-106			
Fluorene	4/1/20 11:50	84.1	20.3	"	102	ND	82.8	28.1-104			
Indeno (1,2,3-cd) pyrene	4/1/20 11:50	68.6	20.3	"	102	ND	67.6	29.6-105			
2-Methylnaphthalene	4/1/20 11:50	78.4	20.3	"	102	ND	77.2	18.5-106			
2-Methylphenol	4/1/20 11:50	86.3	20.3	"	102	ND	85.0	10-106			
3 & 4-Methylphenol	4/1/20 11:50	175	20.3	"	203	ND	86.3	10-139			
Naphthalene	4/1/20 11:50	83.6	20.3	"	102	ND	82.4	17-100			
Pentachlorophenol	4/1/20 11:50	71.5	20.3	"	102	ND	70.4	10-119			
Phenanthrene	4/1/20 11:50	86.7	20.3	"	102	ND	85.4	34.8-106			
Pyrene	4/1/20 11:50	46.5	20.3	"	102	ND	45.8	10-127			
2,4,6-Trichlorophenol	4/1/20 11:50	85.1	20.3	"	102	ND	83.8	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*82.9*		"	*102*		*81.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*34.8*		"	*50.8*		*68.5*	*14.7-104*			
Surrogate: 2-Fluorophenol		*72.9*		"	*102*		*71.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*42.6*		"	*50.8*		*83.9*	*10-103*			
Surrogate: Phenol-d5		*68.0*		"	*102*		*67.0*	*10-105*			
Surrogate: Terphenyl-dl4		*25.6*		"	*50.8*		*50.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C16018 - EPA 3510C DCN 4000 Rev 12											
Blank (0C16018-BLK1)											
Pentachlorophenol	3/23/20 10:36	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*17.1*		*"*	*30.0*		*57.1*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*11.5*		*"*	*15.0*		*76.3*	*26.4-100*			
Surrogate: 2-Fluorophenol		*19.9*		*"*	*30.0*		*66.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*9.40*		*"*	*15.0*		*62.7*	*20.6-100*			
Surrogate: Phenol-d5		*19.9*		*"*	*30.0*		*66.3*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
LCS (0C16018-BS1)											
Pentachlorophenol	3/19/20 15:47	12.5	1.00	ug/L	20.0		62.3	10-144			
Surrogate: 2,4,6-Tribromophenol		*21.7*		*"*	*30.0*		*72.4*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*9.02*		*"*	*15.0*		*60.1*	*26.4-100*			
Surrogate: 2-Fluorophenol		*17.7*		*"*	*30.0*		*58.9*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*9.12*		*"*	*15.0*		*60.8*	*20.6-100*			
Surrogate: Phenol-d5		*17.9*		*"*	*30.0*		*59.8*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
LCS Dup (0C16018-BSD1)											
Pentachlorophenol	3/23/20 11:14	9.56	1.00	ug/L	20.0		47.8	10-144	26.3	40	
Surrogate: 2,4,6-Tribromophenol		*18.7*		*"*	*30.0*		*62.3*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*7.64*		*"*	*15.0*		*50.9*	*26.4-100*			
Surrogate: 2-Fluorophenol		*14.5*		*"*	*30.0*		*48.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*8.28*		*"*	*15.0*		*55.2*	*20.6-100*			
Surrogate: Phenol-d5		*14.8*		*"*	*30.0*		*49.4*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*15.0*			*13.5-100*			
Duplicate (0C16018-DUP1)				**Source: 2003208-01**							
Pentachlorophenol	3/19/20 22:37	4.25	1.00	ug/L		ND			200	45	B-07
Surrogate: 2,4,6-Tribromophenol		*21.2*		*"*	*21.7*		*97.7*	*16.2-100*			
Surrogate: 2-Fluorobiphenyl		*0.337*		*"*	*10.9*		*3.10*	*26.4-100*			
Surrogate: 2-Fluorophenol		*7.91*		*"*	*21.7*		*36.4*	*12.7-100*			
Surrogate: Nitrobenzene-d5		*0.239*		*"*	*10.9*		*2.20*	*20.6-100*			
Surrogate: Phenol-d5		*5.05*		*"*	*21.7*		*23.3*	*16.1-100*			
Surrogate: Terphenyl-dl4		*0.00*		*"*	*10.9*			*13.5-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C26032 - EPA 5030B											
Blank (0C26032-BLK1)											
Benzene	3/25/20 11:00	ND	5.00	ug/L							
Ethylbenzene	3/25/20 11:00	ND	5.00	"							
Surrogate: Dibromofluoromethane		*50.7*		"	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.9*		"	*50.0*		*97.8*	*70-130*			
Surrogate: Toluene-d8		*50.5*		"	*50.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.8*		"	*50.0*		*99.6*	*70-130*			
Blank (0C26032-BLK2)											
Benzene	3/25/20 23:27	ND	5.00	ug/L							
Ethylbenzene	3/25/20 23:27	ND	5.00	"							
Surrogate: Dibromofluoromethane		*43.6*		"	*50.0*		*87.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.4*		"	*50.0*		*94.7*	*70-130*			
Surrogate: Toluene-d8		*49.5*		"	*50.0*		*99.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.6*		"	*50.0*		*97.3*	*70-130*			
LCS (0C26032-BS1)											
Benzene	3/25/20 11:23	21.4	5.00	ug/L	20.0		107	79.8-135			
Ethylbenzene	3/25/20 11:23	21.9	5.00	"	20.0		110	79.9-137			
Surrogate: Dibromofluoromethane		*50.4*		"	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.3*		"	*50.0*		*96.6*	*70-130*			
Surrogate: Toluene-d8		*48.1*		"	*50.0*		*96.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.6*		"	*50.0*		*99.2*	*70-130*			
LCS (0C26032-BS2)											
Benzene	3/25/20 23:51	20.1	5.00	ug/L	20.0		101	79.8-135			
Ethylbenzene	3/25/20 23:51	19.2	5.00	"	20.0		96.1	79.9-137			
Surrogate: Dibromofluoromethane		*45.2*		"	*50.0*		*90.4*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.4*		"	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8		*49.9*		"	*50.0*		*99.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.3*		"	*50.0*		*98.7*	*70-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C26032 - EPA 5030B											
LCS Dup (0C26032-BSD1)											
Benzene	3/25/20 11:47	20.6	5.00	ug/L	20.0		103	79.8-135	3.77	30	
Ethylbenzene	3/25/20 11:47	21.1	5.00	"	20.0		106	79.9-137	3.63	30	
Surrogate: Dibromofluoromethane		*51.7*		"	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.0*		"	*50.0*		*97.9*	*70-130*			
Surrogate: Toluene-d8		*48.6*		"	*50.0*		*97.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.6*		"	*50.0*		*101*	*70-130*			
LCS Dup (0C26032-BSD2)											
Benzene	3/26/20 0:14	19.2	5.00	ug/L	20.0		96.1	79.8-135	4.58	30	
Ethylbenzene	3/26/20 0:14	18.8	5.00	"	20.0		93.8	79.9-137	2.48	30	
Surrogate: Dibromofluoromethane		*44.8*		"	*50.0*		*89.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.4*		"	*50.0*		*94.8*	*70-130*			
Surrogate: Toluene-d8		*49.9*		"	*50.0*		*99.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.8*		"	*50.0*		*97.6*	*70-130*			
Matrix Spike (0C26032-MS1)			**Source: 2003454-01**								
Benzene	3/25/20 15:57	23.4	5.00	ug/L	20.0	ND	117	83.5-141			
Ethylbenzene	3/25/20 15:57	23.9	5.00	"	20.0	ND	119	62.1-158			
Surrogate: Dibromofluoromethane		*48.2*		"	*50.0*		*96.5*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*56.2*		"	*50.0*		*112*	*70-130*			
Surrogate: Toluene-d8		*44.6*		"	*50.0*		*89.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.6*		"	*50.0*		*109*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:16

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2020*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2020*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/08/2020 13:16

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Kristy L. Pierce	KLP
Sarah E. Tomek	SET
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2003275

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	
Project Name:	MOBILE CFI 1ST QTR 2020
Project #:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

- x Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	CHLORIDE NITRATE AMMONIA	METALS	BNA	VOA
			Preservative:					
B-65	3-12-20/9:20	W	9	G	X	X	X	X
B-101	3-12-20/10:00	W	9	G	X	X	X	X
B-60A	3-12-20/14:00	W	9	G	X	X	X	X
RC-3A	3-12-20/14:22	W	9	G	X	X	X	X
RC-2A	3-12-20/14:40	W	7	G	X	X	X	X
TBV#6385	3-12-20/9:20	W	2	G				X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? (Y) N Thermometer# 4 Cooler # _____ **Receipt Temp Corrected(°C)** 3.4°C SK

Date & Time _____ By: SK Sample _____ Blank X Cooler _____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3-12-20	16:02
Received by	Stella Kleist	Stella Kleist	MM	3-12-20	16:00
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
Client cooler #1 3.7°C
Client cooler #2 0.2°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 08, 2020

Ethan Allen

Work Order # : 2003390

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/19/2020 08:25. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-108A	2003390-01	Water	03/18/2020 10:30	*Jeff Gonsoulin*	03/19/2020 08:25
Mobile/B-128	2003390-02	Water	03/18/2020 11:10	*Jeff Gonsoulin*	03/19/2020 08:25
Mobile/B-97	2003390-03	Water	03/18/2020 12:00	*Jeff Gonsoulin*	03/19/2020 08:25
Mobile/B-24	2003390-04	Water	03/18/2020 14:00	*Jeff Gonsoulin*	03/19/2020 08:25
Mobile/E-2	2003390-05	Water	03/18/2020 16:30	*Jeff Gonsoulin*	03/19/2020 08:25
Trip Blank TBV#6384	2003390-06	Water	03/18/2020 10:30	*Micro Methods*	03/19/2020 08:25

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Sample Receipt Conditions

Date/Time Received: 3/19/2020 8:25:00AM
Received by: Stella S Kleist
Date/Time Logged: 3/19/2020 9:39:00AM
Cooler ID: #381

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Stella S Kleist
Receipt Temperature: -1.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Cooler ID: client cooler #1

Receipt Temperature: -1.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	No
Containers Intact	No	*No Ice, Short Trip*	No
COC/Labels Agree	No	*Obvious Contamination*	No
Labels Complete	No	*Rush to meet HT*	No
COC Complete	No	*Received within HT*	No
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	No
Field Sheet/Instructions Included	No	*Correct Preservation*	No
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	No
Temp Taken From Temp Blank	No	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	No		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:18

Cooler ID: client cooler #2 **Receipt Temperature:** -1.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	No
Containers Intact	No	*No Ice, Short Trip*	No
COC/Labels Agree	No	*Obvious Contamination*	No
Labels Complete	No	*Rush to meet HT*	No
COC Complete	No	*Received within HT*	No
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	No
Field Sheet/Instructions Included	No	*Correct Preservation*	No
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	No
Temp Taken From Temp Blank	No	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	No		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:18

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5
0C25015-MS1, 2003390-04[Mobile/B-24]

Total Metals-EPA 200.8 Rev 5.4

Qualifiers:

IS-04 Internal standards for this sample were above the acceptable criteria range. QC results within acceptable limits.

Chromium [He]
0C24032-MSD1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-108A

2003390-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C24031	CRLV	03/24/2020 08:35	03/30/2020 14:45	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.115	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.125	*60.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.135	*65.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**1260**	25.0	mg/L	50.0	0C20011	DLW	03/19/2020 10:25	03/19/2020 16:54	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	DLW	"	03/19/2020 12:36	"	
Ammonia as N	**7.18**	0.21	"	"	0C25040	AKL	03/25/2020 14:53	03/25/2020 15:57	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C24032	ABT	03/20/2020 08:30	03/23/2020 18:24	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00118**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.5	ug/L	1.0	0C25015	CRLV	03/25/2020 08:25	03/25/2020 18:45	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-108A

2003390-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Phenanthrene	ND	10.5	ug/L	1.0	0C25015	CRLV	03/25/2020 08:25	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.27	*59.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.61	*49.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.71	*25.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.18	*41.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.71	*16.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.34	*44.4 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C25015	CRLV	"	03/25/2020 18:45	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.27	*59.6 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.71	*25.7 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.71	*16.2 %*	*16.1-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C31027	BSF	03/30/2020 08:00	03/30/2020 18:32	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.3	*109 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.8	*99.7 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	45.3	*90.6 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.5	*93.0 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-128

2003390-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C24031	CRLV	03/24/2020 08:35	03/30/2020 15:26	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.124	*60.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.145	*70.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.187	*90.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**847**	25.0	mg/L	50.0	0C20011	DLW	03/19/2020 10:25	03/19/2020 17:12	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	DLW	"	03/19/2020 12:54	"	
Ammonia as N	**9.19**	0.21	"	"	0C25040	AKL	03/25/2020 14:53	03/25/2020 15:51	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C24032	ABT	03/20/2020 08:30	03/23/2020 18:47	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00285**	0.00100	"	"	"	ABT	"	03/24/2020 14:32	"	
Lead [He]	**0.00361**	0.00100	"	"	"	ABT	"	03/23/2020 18:47	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-128

2003390-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.5	ug/L	1.0	0C25015	CRLV	03/25/2020 08:25	03/25/2020 19:23	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.09	*58.2 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.91	*55.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.06	*29.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.58	*49.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.94	*18.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.46	*47.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0C25015	CRLV	"	03/25/2020 19:23	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.09	*58.2 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.06	*29.2 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.94	*18.5 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-128

2003390-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C31027	BSF	03/30/2020 08:00	03/30/2020 18:59	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	57.5	*115 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.8	*104 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	49.0	*97.9 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.4	*94.7 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-97

2003390-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.07	ug/L	1.0	0C24031	CRLV	03/24/2020 08:35	03/30/2020 16:08	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0833	*35.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.0952	*40.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.0833	*35.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**398**	10.0	mg/L	20.0	0C20011	DLW	03/19/2020 10:25	03/19/2020 17:30	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	DLW	"	03/19/2020 13:12	"	
Ammonia as N	**7.83**	0.21	"	"	0C25040	AKL	03/25/2020 14:53	03/25/2020 16:01	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.0105**	0.00200	mg/L	1.0	0C24032	ABT	03/20/2020 08:30	03/23/2020 18:55	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00118**	0.00100	"	"	"	ABT	"	03/24/2020 14:47	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	03/23/2020 18:55	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-97

2003390-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	12.2	ug/L	1.0	0C25015	CRLV	03/25/2020 08:25	03/25/2020 20:00	EPA 8270D	
Acenaphthylene	ND	12.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	12.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	12.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	12.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	12.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	12.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	12.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	12.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	12.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	12.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	12.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	12.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	12.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	12.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	12.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	12.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	12.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	12.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	12.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	12.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	12.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	12.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	12.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	12.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.46	*44.8 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.27	*37.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.35	*27.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.87	*47.0 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.44	*20.0 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	0.756	*12.4 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0C25015	CRLV	"	03/25/2020 20:00	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.46	*44.8 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.35	*27.5 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.44	*20.0 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-97

2003390-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C31027	BSF	03/30/2020 08:00	03/30/2020 19:25	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.2	*110 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.0	*96.0 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	44.5	*89.0 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.8	*99.6 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-24

2003390-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C24031	CRLV	03/24/2020 08:35	03/30/2020 16:49	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0933	*45.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.114	*55.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.114	*55.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**75.8**	2.00	mg/L	4.0	0C20011	DLW	03/19/2020 10:25	03/19/2020 17:48	SM 4110B 2011	
Nitrate as N	**3.86**	0.500	"	1.0	"	DLW	"	03/19/2020 13:30	"	
Ammonia as N	ND	0.21	"	"	0C25040	AKL	03/25/2020 14:53	03/25/2020 16:03	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C24032	ABT	03/20/2020 08:30	03/23/2020 19:02	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-24

2003390-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.1	ug/L	1.0	0C25015	CRLV	03/25/2020 08:25	03/26/2020 13:58	EPA 8270D	
Acenaphthylene	ND	10.1	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.1	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.1	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.1	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.1	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.1	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.1	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	4.52	*44.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.14	*42.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.15	*21.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.04	*40.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.36	*13.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.18	*43.2 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0C25015	CRLV	"	03/26/2020 13:58	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	4.52	*44.7 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.15	*21.3 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.36	*13.5 %*	*16.1-100*	"	CRLV	"	"	"	*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/B-24

2003390-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C31027	BSF	03/30/2020 08:00	03/30/2020 19:51	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.8	*112 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.7	*99.4 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	44.9	*89.7 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.8	*102 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/E-2

2003390-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C24031	CRLV	03/24/2020 08:35	03/30/2020 17:30	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.146	*70.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.167	*80.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.167	*80.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**188**	5.00	mg/L	10.0	0C20011	DLW	03/19/2020 10:25	03/19/2020 18:24	SM 4110B 2011	
Nitrate as N	**2.07**	0.500	"	1.0	"	DLW	"	03/19/2020 13:48	"	
Ammonia as N	**8.55**	0.21	"	"	0C25040	AKL	03/25/2020 14:53	03/25/2020 16:04	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0C24032	ABT	03/20/2020 08:30	03/23/2020 19:10	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00253**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/E-2

2003390-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	0C25015	CRLV	03/25/2020 08:25	03/26/2020 14:36	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.54	*53.5 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.66	*51.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.61	*25.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.47	*47.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.71	*16.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	1.94	*37.4 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0C25015	CRLV	"	03/26/2020 14:36	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.54	*53.5 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.61	*25.2 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.71	*16.5 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Mobile/E-2

2003390-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C31027	BSF	03/30/2020 08:00	03/30/2020 20:17	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.4	*111 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.1	*94.2 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	42.3	*84.5 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.3	*90.5 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Trip Blank TBV#6384

2003390-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C31027	BSF	03/30/2020 08:00	03/30/2020 20:43	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.7	*113 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.2	*90.4 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	44.3	*88.6 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.1	*98.2 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
Blank (0C24031-BLK1)											
Benzo (a) pyrene	3/30/20 14:04	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		"	*0.200*		*75.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.170*		"	*0.200*		*85.0*	*10-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
LCS (0C24031-BS1)											
Benzo (a) pyrene	3/31/20 4:34	0.13	0.06	ug/L	0.200		65.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.150*		*"*	*0.200*		*75.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		*"*	*0.200*		*85.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.150*		*"*	*0.200*		*75.0*	*10-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C24031-BSD1)											
Benzo (a) pyrene	3/31/20 5:15	0.12	0.06	ug/L	0.200		60.0	10-149	8.00	40	
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		"	*0.200*		*75.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.130*		"	*0.200*		*65.0*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C24031-DUP1)			**Source: 2003392-04**								
Benzo (a) pyrene	3/30/20 23:02	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.106*		*"*	*0.212*		*50.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.127*		*"*	*0.212*		*60.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.138*		*"*	*0.212*		*65.0*	*10-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (0C24031-MS1)			**Source: 2003392-04**								
Benzo (a) pyrene	3/30/20 23:44	0.12	0.06	ug/L	0.203	ND	60.0	10-208			
Surrogate: 2-Fluorobiphenyl		*0.0914*		*"*	*0.203*		*45.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.102*		*"*	*0.203*		*50.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.142*		*"*	*0.203*		*70.0*	*10-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C20011 - Default Prep GenChem											
Blank (0C20011-BLK1)											
Chloride	3/19/20 11:45	ND	0.500	mg/L							
Nitrate as N	3/19/20 11:45	ND	0.500	"							
LCS (0C20011-BS1)											
Chloride	3/19/20 11:09	3.12	0.500	mg/L	3.00		104	81.8-111			
Nitrate as N	3/19/20 11:09	2.27	0.500	"	2.26		101	81.1-113			
LCS Dup (0C20011-BSD1)											
Chloride	3/19/20 11:27	3.03	0.500	mg/L	3.00		101	81.8-111	2.80	20	
Nitrate as N	3/19/20 11:27	2.25	0.500	"	2.26		99.6	81.1-113	0.973	20	
Duplicate (0C20011-DUP1)			**Source: 2003390-04**								
Chloride	3/19/20 18:06	71.3	2.00	mg/L		75.8			6.06	20	
Nitrate as N	3/19/20 15:25	3.76	0.500	"		3.86			2.65	20	
Matrix Spike (0C20011-MS1)			**Source: 2003390-04**								
Chloride	3/19/20 15:42	313	10.0	mg/L	250	75.8	95.1	75.3-124			
Nitrate as N	3/19/20 15:42	59.2	10.0	"	56.5	3.86	98.0	58.5-131			
Matrix Spike Dup (0C20011-MSD1)			**Source: 2003390-04**								
Chloride	3/19/20 16:00	314	10.0	mg/L	250	75.8	95.4	75.3-124	0.312	20	
Nitrate as N	3/19/20 16:00	59.3	10.0	"	56.5	3.86	98.1	58.5-131	0.0675	20	
Batch 0C25040 - Default Prep GenChem											
Blank (0C25040-BLK1)											
Ammonia as N	3/25/20 15:18	ND	0.21	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25040 - Default Prep GenChem											
LCS (0C25040-BS1)											
Ammonia as N	3/25/20 15:21	5.44	0.21	mg/L	5.00		109	90-110			
LCS Dup (0C25040-BSD1)											
Ammonia as N	3/25/20 15:37	5.29	0.21	mg/L	5.00		106	90-110	2.80	10	
Duplicate (0C25040-DUP1)			**Source: 2003491-01**								
Ammonia as N	3/25/20 16:08	20.8	0.21	mg/L		19.9			4.42	10	
Matrix Spike (0C25040-MS1)			**Source: 2003390-01**								
Ammonia as N	3/25/20 15:58	12.0	0.21	mg/L	5.00	7.18	96.4	90-110			
Matrix Spike Dup (0C25040-MSD1)			**Source: 2003390-01**								
Ammonia as N	3/25/20 16:00	11.8	0.21	mg/L	5.00	7.18	92.4	90-110	1.68	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24032 - EPA 200.2 DCN 1017 Rev 9											
Blank (0C24032-BLK1)											
Arsenic [HHe]	3/23/20 12:32	ND	0.00200	mg/L							
Chromium [He]	3/23/20 12:32	ND	0.00100	"							
Lead [He]	3/23/20 12:32	ND	0.00100	"							
Nickel [He]	3/23/20 12:32	ND	0.0400	"							
LCS (0C24032-BS1)											
Arsenic [HHe]	3/23/20 12:40	0.102	0.00200	mg/L	0.100		102	85-115			
Chromium [He]	3/23/20 12:40	0.098	0.00100	"	0.100		98.5	85-115			
Lead [He]	3/23/20 12:40	0.098	0.00100	"	0.100		98.2	85-115			
Nickel [He]	3/23/20 12:40	0.104	0.0400	"	0.100		104	85-115			
LCS Dup (0C24032-BSD1)											
Arsenic [HHe]	3/23/20 12:47	0.103	0.00200	mg/L	0.100		103	85-115	1.26	20	
Chromium [He]	3/23/20 12:47	0.099	0.00100	"	0.100		98.8	85-115	0.348	20	
Lead [He]	3/23/20 12:47	0.100	0.00100	"	0.100		99.8	85-115	1.54	20	
Nickel [He]	3/23/20 12:47	0.105	0.0400	"	0.100		105	85-115	1.07	20	
Matrix Spike (0C24032-MS1)			**Source: 2003390-01**								
Arsenic [HHe]	3/23/20 18:32	0.096	0.00200	mg/L	0.100	ND	96.1	70-130			
Chromium [He]	3/23/20 18:32	0.089	0.00100	"	0.100	0.0006	88.8	70-130			
Lead [He]	3/23/20 18:32	0.104	0.00100	"	0.100	0.001	103	70-130			
Nickel [He]	3/23/20 18:32	0.097	0.0400	"	0.100	0.0005	96.2	70-130			
Matrix Spike Dup (0C24032-MSD1)			**Source: 2003390-01**								
Arsenic [HHe]	3/23/20 18:40	0.097	0.00200	mg/L	0.100	ND	97.0	70-130	0.939	20	
Chromium [He]	3/23/20 18:40	0.090	0.00100	"	0.100	0.0006	89.4	70-130	0.696	20	IS-04
Lead [He]	3/23/20 18:40	0.105	0.00100	"	0.100	0.001	104	70-130	1.59	20	
Nickel [He]	3/23/20 18:40	0.098	0.0400	"	0.100	0.0005	97.3	70-130	1.18	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Blank (0C25015-BLK1)											
Acenaphthene	3/25/20 16:52	ND	10.0	ug/L							
Acenaphthylene	3/25/20 16:52	ND	10.0	"							
Anthracene	3/25/20 16:52	ND	10.0	"							
Benzo (a) anthracene	3/25/20 16:52	ND	10.0	"							
Benzo (b) fluoranthene	3/25/20 16:52	ND	10.0	"							
Benzo (k) fluoranthene	3/25/20 16:52	ND	10.0	"							
Benzo (a) pyrene	3/25/20 16:52	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/25/20 16:52	ND	10.0	"							
Carbazole	3/25/20 16:52	ND	10.0	"							
4-Chloro-3-methylphenol	3/25/20 16:52	ND	10.0	"							
Chrysene	3/25/20 16:52	ND	10.0	"							
Dibenz (a,h) anthracene	3/25/20 16:52	ND	10.0	"							
Dibenzofuran	3/25/20 16:52	ND	10.0	"							
2,4-Dimethylphenol	3/25/20 16:52	ND	10.0	"							
2,4-Dinitrophenol	3/25/20 16:52	ND	10.0	"							
Di-n-octyl phthalate	3/25/20 16:52	ND	10.0	"							
Fluoranthene	3/25/20 16:52	ND	10.0	"							
Fluorene	3/25/20 16:52	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/25/20 16:52	ND	10.0	"							
2-Methylnaphthalene	3/25/20 16:52	ND	10.0	"							
2-Methylphenol	3/25/20 16:52	ND	10.0	"							
3 & 4-Methylphenol	3/25/20 16:52	ND	10.0	"							
Naphthalene	3/25/20 16:52	ND	10.0	"							
Pentachlorophenol	3/25/20 16:52	ND	10.0	"							
Phenanthrene	3/25/20 16:52	ND	10.0	"							
Pyrene	3/25/20 16:52	ND	10.0	"							
2,4,6-Trichlorophenol	3/25/20 16:52	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*5.44*		*"*	*10.0*		*54.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.15*		*"*	*5.00*		*63.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.59*		*"*	*10.0*		*55.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.68*		*"*	*5.00*		*53.6*	*10-103*			
Surrogate: Phenol-d5		*5.50*		*"*	*10.0*		*55.0*	*10-105*			
Surrogate: Terphenyl-dl4		*2.84*		*"*	*5.00*		*56.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
LCS (0C25015-BS1)											
Acenaphthene	3/25/20 17:30	6.67	10.0	ug/L	10.0		66.7	45.5-108			
Acenaphthylene	3/25/20 17:30	6.45	10.0	"	10.0		64.5	46.4-114			
Anthracene	3/25/20 17:30	6.82	10.0	"	10.0		68.2	47-106			
Benzo (a) anthracene	3/25/20 17:30	6.65	10.0	"	10.0		66.5	50.8-105			
Benzo (b) fluoranthene	3/25/20 17:30	6.87	10.0	"	10.0		68.7	47-109			
Benzo (k) fluoranthene	3/25/20 17:30	6.83	10.0	"	10.0		68.3	44-111			
Benzo (a) pyrene	3/25/20 17:30	6.92	10.0	"	10.0		69.2	52.9-103			
Bis(2-ethylhexyl)phthalate	3/25/20 17:30	6.46	10.0	"	10.0		64.6	36.4-121			
Carbazole	3/25/20 17:30	7.08	10.0	"	10.0		70.8	25-172			
4-Chloro-3-methylphenol	3/25/20 17:30	6.31	10.0	"	10.0		63.1	46.4-108			
Chrysene	3/25/20 17:30	6.70	10.0	"	10.0		67.0	46.6-100			
Dibenz (a,h) anthracene	3/25/20 17:30	8.08	10.0	"	10.0		80.8	46.7-102			
Dibenzofuran	3/25/20 17:30	6.50	10.0	"	10.0		65.0	45.8-105			
2,4-Dimethylphenol	3/25/20 17:30	4.36	10.0	"	10.0		43.6	41.6-101			
2,4-Dinitrophenol	3/25/20 17:30	5.48	10.0	"	10.0		54.8	10-131			
Di-n-octyl phthalate	3/25/20 17:30	6.64	10.0	"	10.0		66.4	38.6-123			
Fluoranthene	3/25/20 17:30	7.09	10.0	"	10.0		70.9	44.9-114			
Fluorene	3/25/20 17:30	6.80	10.0	"	10.0		68.0	45.6-107			
Indeno (1,2,3-cd) pyrene	3/25/20 17:30	7.78	10.0	"	10.0		77.8	45.8-104			
2-Methylnaphthalene	3/25/20 17:30	6.06	10.0	"	10.0		60.6	44.2-104			
2-Methylphenol	3/25/20 17:30	6.05	10.0	"	10.0		60.5	44.5-103			
3 & 4-Methylphenol	3/25/20 17:30	12.3	10.0	"	20.0		61.5	11-149			
Naphthalene	3/25/20 17:30	6.26	10.0	"	10.0		62.6	45-100			
Pentachlorophenol	3/25/20 17:30	6.24	10.0	"	10.0		62.4	17.4-124			
Phenanthrene	3/25/20 17:30	6.89	10.0	"	10.0		68.9	49.2-107			
Pyrene	3/25/20 17:30	5.58	10.0	"	10.0		55.8	31.7-124			
2,4,6-Trichlorophenol	3/25/20 17:30	6.53	10.0	"	10.0		65.3	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*6.52*		*"*	*10.0*		*65.2*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.17*		*"*	*5.00*		*63.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.65*		*"*	*10.0*		*56.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.30*		*"*	*5.00*		*66.0*	*10-103*			
Surrogate: Phenol-d5		*5.84*		*"*	*10.0*		*58.4*	*10-105*			
Surrogate: Terphenyl-dl4		*2.84*		*"*	*5.00*		*56.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C25015-BSD1)											
Acenaphthene	3/25/20 18:08	6.90	10.0	ug/L	10.0		69.0	45.5-108	3.39	40	
Acenaphthylene	3/25/20 18:08	6.55	10.0	"	10.0		65.5	46.4-114	1.54	40	
Anthracene	3/25/20 18:08	6.92	10.0	"	10.0		69.2	47-106	1.46	40	
Benzo (a) anthracene	3/25/20 18:08	6.94	10.0	"	10.0		69.4	50.8-105	4.27	40	
Benzo (b) fluoranthene	3/25/20 18:08	6.76	10.0	"	10.0		67.6	47-109	1.61	40	
Benzo (k) fluoranthene	3/25/20 18:08	7.15	10.0	"	10.0		71.5	44-111	4.58	40	
Benzo (a) pyrene	3/25/20 18:08	7.35	10.0	"	10.0		73.5	52.9-103	6.03	40	
Bis(2-ethylhexyl)phthalate	3/25/20 18:08	6.64	10.0	"	10.0		66.4	36.4-121	2.75	40	
Carbazole	3/25/20 18:08	7.33	10.0	"	10.0		73.3	25-172	3.47	40	
4-Chloro-3-methylphenol	3/25/20 18:08	6.65	10.0	"	10.0		66.5	46.4-108	5.25	40	
Chrysene	3/25/20 18:08	7.12	10.0	"	10.0		71.2	46.6-100	6.08	40	
Dibenz (a,h) anthracene	3/25/20 18:08	8.75	10.0	"	10.0		87.5	46.7-102	7.96	40	
Dibenzofuran	3/25/20 18:08	6.70	10.0	"	10.0		67.0	45.8-105	3.03	40	
2,4-Dimethylphenol	3/25/20 18:08	6.02	10.0	"	10.0		60.2	41.6-101	32.0	40	
2,4-Dinitrophenol	3/25/20 18:08	5.33	10.0	"	10.0		53.3	10-131	2.78	40	
Di-n-octyl phthalate	3/25/20 18:08	6.46	10.0	"	10.0		64.6	38.6-123	2.75	40	
Fluoranthene	3/25/20 18:08	7.22	10.0	"	10.0		72.2	44.9-114	1.82	40	
Fluorene	3/25/20 18:08	6.97	10.0	"	10.0		69.7	45.6-107	2.47	40	
Indeno (1,2,3-cd) pyrene	3/25/20 18:08	8.61	10.0	"	10.0		86.1	45.8-104	10.1	40	
2-Methylnaphthalene	3/25/20 18:08	6.35	10.0	"	10.0		63.5	44.2-104	4.67	40	
2-Methylphenol	3/25/20 18:08	6.63	10.0	"	10.0		66.3	44.5-103	9.15	40	
3 & 4-Methylphenol	3/25/20 18:08	13.5	10.0	"	20.0		67.7	11-149	9.68	40	
Naphthalene	3/25/20 18:08	6.62	10.0	"	10.0		66.2	45-100	5.59	40	
Pentachlorophenol	3/25/20 18:08	6.32	10.0	"	10.0		63.2	17.4-124	1.27	40	
Phenanthrene	3/25/20 18:08	6.95	10.0	"	10.0		69.5	49.2-107	0.867	40	
Pyrene	3/25/20 18:08	5.28	10.0	"	10.0		52.8	31.7-124	5.52	40	
2,4,6-Trichlorophenol	3/25/20 18:08	6.74	10.0	"	10.0		67.4	41.7-110	3.17	40	
Surrogate: 2,4,6-Tribromophenol		*6.49*		*"*	*10.0*		*64.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.22*		*"*	*5.00*		*64.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.82*		*"*	*10.0*		*58.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.39*		*"*	*5.00*		*67.8*	*10-103*			
Surrogate: Phenol-d5		*6.07*		*"*	*10.0*		*60.7*	*10-105*			
Surrogate: Terphenyl-dl4		*2.70*		*"*	*5.00*		*54.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C25015-DUP1)			**Source: 2003392-04**								
Acenaphthene	3/26/20 21:30	ND	11.0	ug/L		ND				45	
Acenaphthylene	3/26/20 21:30	ND	11.0	"		ND				45	
Anthracene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (a) anthracene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (b) fluoranthene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (k) fluoranthene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (a) pyrene	3/26/20 21:30	ND	11.0	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/26/20 21:30	ND	11.0	"		ND				45	
Carbazole	3/26/20 21:30	ND	11.0	"		ND				45	
4-Chloro-3-methylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
Chrysene	3/26/20 21:30	ND	11.0	"		ND				45	
Dibenz (a,h) anthracene	3/26/20 21:30	ND	11.0	"		ND				45	
Dibenzofuran	3/26/20 21:30	ND	11.0	"		ND				45	
2,4-Dimethylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
2,4-Dinitrophenol	3/26/20 21:30	ND	11.0	"		ND				45	
Di-n-octyl phthalate	3/26/20 21:30	ND	11.0	"		ND				45	
Fluoranthene	3/26/20 21:30	ND	11.0	"		ND				45	
Fluorene	3/26/20 21:30	ND	11.0	"		ND				45	
Indeno (1,2,3-cd) pyrene	3/26/20 21:30	ND	11.0	"		ND				45	
2-Methylnaphthalene	3/26/20 21:30	ND	11.0	"		ND				45	
2-Methylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
3 & 4-Methylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
Naphthalene	3/26/20 21:30	ND	11.0	"		ND				45	
Pentachlorophenol	3/26/20 21:30	ND	11.0	"		ND				45	
Phenanthrene	3/26/20 21:30	ND	11.0	"		ND				45	
Pyrene	3/26/20 21:30	ND	11.0	"		ND				45	
2,4,6-Trichlorophenol	3/26/20 21:30	ND	11.0	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.81*		*"*	*11.0*		*52.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.63*		*"*	*5.52*		*47.6*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.07*		*"*	*11.0*		*27.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.71*		*"*	*5.52*		*49.0*	*10-103*			
Surrogate: Phenol-d5		*1.93*		*"*	*11.0*		*17.5*	*10-105*			
Surrogate: Terphenyl-dl4		*3.39*		*"*	*5.52*		*61.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (0C25015-MS1)			**Source: 2003392-04**								
Acenaphthene	3/26/20 22:07	5.55	11.0	ug/L	11.0	ND	50.5	21.2-106			
Acenaphthylene	3/26/20 22:07	5.46	11.0	"	11.0	ND	49.7	23.7-113			
Anthracene	3/26/20 22:07	6.60	11.0	"	11.0	ND	60.1	32.7-100			
Benzo (a) anthracene	3/26/20 22:07	6.58	11.0	"	11.0	ND	59.9	35.6-101			
Benzo (b) fluoranthene	3/26/20 22:07	6.70	11.0	"	11.0	ND	61.0	38.4-100			
Benzo (k) fluoranthene	3/26/20 22:07	6.84	11.0	"	11.0	ND	62.2	29.6-107			
Benzo (a) pyrene	3/26/20 22:07	6.79	11.0	"	11.0	ND	61.8	32.7-102			
Bis(2-ethylhexyl)phthalate	3/26/20 22:07	7.75	11.0	"	11.0	ND	70.5	28.4-112			
Carbazole	3/26/20 22:07	6.68	11.0	"	11.0	ND	60.8	24.9-167			
4-Chloro-3-methylphenol	3/26/20 22:07	5.49	11.0	"	11.0	ND	50.0	20.7-115			
Chrysene	3/26/20 22:07	6.73	11.0	"	11.0	ND	61.2	30.8-100			
Dibenz (a,h) anthracene	3/26/20 22:07	7.20	11.0	"	11.0	ND	65.5	32.3-103			
Dibenzofuran	3/26/20 22:07	5.58	11.0	"	11.0	ND	50.8	29.1-105			
2,4-Dimethylphenol	3/26/20 22:07	4.96	11.0	"	11.0	ND	45.1	15.6-114			
2,4-Dinitrophenol	3/26/20 22:07	5.48	11.0	"	11.0	ND	49.9	10-110			
Di-n-octyl phthalate	3/26/20 22:07	7.53	11.0	"	11.0	ND	68.5	19.2-118			
Fluoranthene	3/26/20 22:07	6.57	11.0	"	11.0	ND	59.8	31.9-106			
Fluorene	3/26/20 22:07	6.13	11.0	"	11.0	ND	55.8	28.1-104			
Indeno (1,2,3-cd) pyrene	3/26/20 22:07	7.38	11.0	"	11.0	ND	67.2	29.6-105			
2-Methylnaphthalene	3/26/20 22:07	4.57	11.0	"	11.0	ND	41.6	18.5-106			
2-Methylphenol	3/26/20 22:07	4.37	11.0	"	11.0	ND	39.8	10-106			
3 & 4-Methylphenol	3/26/20 22:07	8.13	11.0	"	22.0	ND	37.0	10-139			
Naphthalene	3/26/20 22:07	4.81	11.0	"	11.0	ND	43.8	17-100			
Pentachlorophenol	3/26/20 22:07	6.12	11.0	"	11.0	ND	55.7	10-119			
Phenanthrene	3/26/20 22:07	6.57	11.0	"	11.0	ND	59.8	34.8-106			
Pyrene	3/26/20 22:07	7.67	11.0	"	11.0	ND	69.8	10-127			
2,4,6-Trichlorophenol	3/26/20 22:07	5.76	11.0	"	11.0	ND	52.4	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*5.36*		*"*	*11.0*		*48.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.16*		*"*	*5.49*		*39.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.41*		*"*	*11.0*		*21.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.45*		*"*	*5.49*		*44.6*	*10-103*			
Surrogate: Phenol-d5		*1.58*		*"*	*11.0*		*14.4*	*10-105*			
Surrogate: Terphenyl-dl4		*2.63*		*"*	*5.49*		*47.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Blank (0C25015-BLK1)											
Pentachlorophenol	3/25/20 16:52	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*5.44*		*"*	*10.0*		*54.4*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.59*		*"*	*10.0*		*55.9*	*12.7-100*			
Surrogate: Phenol-d5		*5.50*		*"*	*10.0*		*55.0*	*16.1-100*			
LCS (0C25015-BS1)											
Pentachlorophenol	3/25/20 17:30	6.24	1.00	ug/L	10.0		62.4	10-144			
Surrogate: 2,4,6-Tribromophenol		*6.52*		*"*	*10.0*		*65.2*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.65*		*"*	*10.0*		*56.5*	*12.7-100*			
Surrogate: Phenol-d5		*5.84*		*"*	*10.0*		*58.4*	*16.1-100*			
LCS Dup (0C25015-BSD1)											
Pentachlorophenol	3/25/20 18:08	6.32	1.00	ug/L	10.0		63.2	10-144	1.27	40	
Surrogate: 2,4,6-Tribromophenol		*6.49*		*"*	*10.0*		*64.9*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.82*		*"*	*10.0*		*58.2*	*12.7-100*			
Surrogate: Phenol-d5		*6.07*		*"*	*10.0*		*60.7*	*16.1-100*			
Duplicate (0C25015-DUP1)			**Source: 2003392-04**								
Pentachlorophenol	3/26/20 21:30	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.81*		*"*	*11.0*		*52.6*	*16.2-100*			
Surrogate: 2-Fluorophenol		*3.07*		*"*	*11.0*		*27.8*	*12.7-100*			
Surrogate: Phenol-d5		*1.93*		*"*	*11.0*		*17.5*	*16.1-100*			
Matrix Spike (0C25015-MS1)			**Source: 2003392-04**								
Pentachlorophenol	3/26/20 22:07	6.12	1.00	ug/L	11.0	ND	55.7	20.7-138			
Surrogate: 2,4,6-Tribromophenol		*5.36*		*"*	*11.0*		*48.8*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.41*		*"*	*11.0*		*21.9*	*12.7-100*			
Surrogate: Phenol-d5		*1.58*		*"*	*11.0*		*14.4*	*16.1-100*			*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C31027 - EPA 5030B											
Blank (0C31027-BLK1)											
Benzene	3/30/20 14:07	ND	5.00	ug/L							
Ethylbenzene	3/30/20 14:07	ND	5.00	"							
Surrogate: Dibromofluoromethane		*57.6*		"	*50.0*		*115*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.7*		"	*50.0*		*99.5*	*70-130*			
Surrogate: Toluene-d8		*47.8*		"	*50.0*		*95.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.4*		"	*50.0*		*109*	*70-130*			
LCS (0C31027-BS1)											
Benzene	3/30/20 14:34	21.7	5.00	ug/L	20.0		109	79.8-135			
Ethylbenzene	3/30/20 14:34	20.9	5.00	"	20.0		105	79.9-137			
Surrogate: Dibromofluoromethane		*53.4*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.7*		"	*50.0*		*97.5*	*70-130*			
Surrogate: Toluene-d8		*47.2*		"	*50.0*		*94.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.2*		"	*50.0*		*104*	*70-130*			
LCS Dup (0C31027-BSD1)											
Benzene	3/30/20 15:00	21.9	5.00	ug/L	20.0		109	79.8-135	0.642	30	
Ethylbenzene	3/30/20 15:00	19.8	5.00	"	20.0		98.8	79.9-137	5.75	30	
Surrogate: Dibromofluoromethane		*55.1*		"	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.3*		"	*50.0*		*103*	*70-130*			
Surrogate: Toluene-d8		*45.3*		"	*50.0*		*90.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.3*		"	*50.0*		*98.7*	*70-130*			
Matrix Spike (0C31027-MS1)			**Source: 2003567-01**								
Benzene	3/30/20 16:46	23.4	5.00	ug/L	20.0	ND	117	83.5-141			
Ethylbenzene	3/30/20 16:46	22.1	5.00	"	20.0	ND	111	62.1-158			
Surrogate: Dibromofluoromethane		*55.9*		"	*50.0*		*112*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.8*		"	*50.0*		*97.6*	*70-130*			
Surrogate: Toluene-d8		*48.1*		"	*50.0*		*96.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.0*		"	*50.0*		*108*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C31027 - EPA 5030B											
Matrix Spike Dup (0C31027-MSD1)			**Source: 2003567-01**								
Benzene	3/30/20 17:12	24.6	5.00	ug/L	20.0	ND	123	83.5-141	5.05	35	
Ethylbenzene	3/30/20 17:12	23.0	5.00	"	20.0	ND	115	62.1-158	3.94	35	
Surrogate: Dibromofluoromethane		*56.5*		*"*	*50.0*		*113*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.3*		*"*	*50.0*		*98.7*	*70-130*			
Surrogate: Toluene-d8		*45.0*		*"*	*50.0*		*90.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.2*		*"*	*50.0*		*102*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:18

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:18

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/08/2020 13:18

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2020*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2020*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/08/2020 13:18

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Kristy L. Pierce	KLP
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2003390

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

_x_Normal __Next Day* __2nd Day* __Other*_____

*All rush order requests must be prior approved.

__Phone __Mail __Fax __Email

QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 1ST QTR 2020

Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	CHLORIDE NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:									
B-108A	3-18-20/10:30	W	9	G	X	X	X	X	X
B-128	3-18-20/11:10	W	9	G	X	X	X	X	X
B-97	3-18-20/12:00	W	9	G	X	X	X	X	X
B-24	3-18-20/14:00	W	9	G	X	X	X	X	X
E-2	3-18-20/16:30	W	9	G	X	X	X	X	X
TBV#6384	3-18-20/10:30	W	2						X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? (Y) N Thermometer# 4 Cooler #_____ **Receipt Temp Corrected(°C)**

Date & Time _____ By: SK Sample____ Blank X Cooler____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Consoulin		EMS	3-19-20	8:25
Received by	Stella Kleist	Stella Kleist	MM	3-19-20	8:25
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
#381 -1.0°C
Client cooler #1 -1.1°C
Client cooler #2 -1.3°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 09, 2020

Ethan Allen

Work Order # : 2003415

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/20/2020 08:09. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-9	2003415-01	Water	03/19/2020 10:45	*Jeff Gonsoulin*	03/20/2020 08:09
Mobile/RW-8A	2003415-02	Water	03/19/2020 11:30	*Jeff Gonsoulin*	03/20/2020 08:09
Trip Blank TBV#6392	2003415-03	Water	03/19/2020 10:45	*Micro Methods*	03/20/2020 08:09

Sample Receipt Conditions

Date/Time Received: 3/20/2020 8:09:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/20/2020 8:41:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Stella S Kleist
Receipt Temperature: -0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 04/09/2020 14:03

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Sample Receipt Comments-SSK:
Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found.

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5
0C25015-MS1

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

Di-n-octyl phthalate
0C23044-BLK1, 2003415-01[Mobile/RW-9]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

Di-n-octyl phthalate
0C23044-BS1, 0C23044-BSD1

L3 LCS/LCSD Precision Limit exceeded.

Pyrene
0C23044-BSD1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Mobile/RW-9

2003415-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**35.5**	0.500	mg/L	1.0	0C23057	DLW	03/20/2020 10:01	03/20/2020 13:06	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0C27019	AKL	03/27/2020 08:00	03/27/2020 10:16	Lachat 10-107-06-1-I	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.7	ug/L	1.0	0C23044	CRLV	03/25/2020 11:00	04/07/2020 15:56	EPA 8270D	
Acenaphthylene	ND	10.7	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.7	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.7	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.7	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.7	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.7	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.7	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.7	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.7	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.7	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.7	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.7	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.7	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.7	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.7	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	ND	10.7	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.7	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.7	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.7	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.7	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.7	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.7	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.7	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.7	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.7	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.7	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	68.3	*63.9 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	31.7	*59.3 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	33.3	*31.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	28.0	*52.3 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	23.2	*21.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	34.4	*64.2 %*	*10-110*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Mobile/RW-9

2003415-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0C31027	BSF	03/30/2020 08:00	03/30/2020 21:10	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.4	*111 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.0	*98.0 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	44.9	*89.8 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.3	*105 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Mobile/RW-8A

2003415-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0C24031	CRLV	03/24/2020 08:35	03/31/2020 02:30	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.117	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.128	*60.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.117	*55.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**14.6**	0.500	mg/L	1.0	0C23057	DLW	03/20/2020 10:01	03/20/2020 13:43	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	**0.81**	0.21	"	"	0C27019	AKL	03/27/2020 08:00	03/27/2020 10:20	Lachat 10-107-06-1-I	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00215**	0.00200	mg/L	1.0	0C23023	ABT	03/23/2020 08:30	03/24/2020 02:59	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00136**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.0173**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Mobile/RW-8A

2003415-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	0C25015	CRLV	03/25/2020 08:25	03/26/2020 20:52	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.09	*58.8 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.73	*52.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.89	*27.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.58	*49.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.78	*17.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.80	*54.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0C25015	CRLV	"	03/26/2020 20:52	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.09	*58.8 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.89	*27.9 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.78	*17.2 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Mobile/RW-8A

2003415-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D01016	BSF	03/31/2020 08:00	03/31/2020 14:27	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	60.8	*122 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	53.4	*107 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	41.8	*83.7 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.8	*99.6 %*	*70-130*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Trip Blank TBV#6392

2003415-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0D01016	BSF	03/31/2020 08:00	03/31/2020 14:53	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.8	*112 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.4	*103 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	46.6	*93.3 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.8	*97.6 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
Blank (0C24031-BLK1)											
Benzo (a) pyrene	3/30/20 14:04	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		"	*0.200*		*75.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.170*		"	*0.200*		*85.0*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
LCS (0C24031-BS1)											
Benzo (a) pyrene	3/31/20 4:34	0.13	0.06	ug/L	0.200		65.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.150*		"	*0.200*		*75.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.170*		"	*0.200*		*85.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.150*		"	*0.200*		*75.0*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C24031-BSD1)											
Benzo (a) pyrene	3/31/20 5:15	0.12	0.06	ug/L	0.200		60.0	10-149	8.00	40	
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		"	*0.200*		*75.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.130*		"	*0.200*		*65.0*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C24031-DUP1)			**Source: 2003392-04**								
Benzo (a) pyrene	3/30/20 23:02	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.106*		*"*	*0.212*		*50.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.127*		*"*	*0.212*		*60.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.138*		*"*	*0.212*		*65.0*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C24031 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (0C24031-MS1)			**Source: 2003392-04**								
Benzo (a) pyrene	3/30/20 23:44	0.12	0.06	ug/L	0.203	ND	60.0	10-208			
Surrogate: 2-Fluorobiphenyl		*0.0914*		*"*	*0.203*		*45.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.102*		*"*	*0.203*		*50.0*	*10-122*			
Surrogate: Terphenyl-dl4		*0.142*		*"*	*0.203*		*70.0*	*10-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23057 - Default Prep GenChem											
Blank (0C23057-BLK1)											
Chloride	3/20/20 10:36	ND	0.500	mg/L							
Nitrate as N	3/20/20 10:36	ND	0.500	"							
LCS (0C23057-BS1)											
Chloride	3/20/20 10:01	3.05	0.500	mg/L	3.00		102	81.8-111			
Nitrate as N	3/20/20 10:01	2.24	0.500	"	2.26		99.0	81.1-113			
LCS Dup (0C23057-BSD1)											
Chloride	3/20/20 10:18	3.02	0.500	mg/L	3.00		101	81.8-111	1.09	20	
Nitrate as N	3/20/20 10:18	2.23	0.500	"	2.26		98.5	81.1-113	0.493	20	
Duplicate (0C23057-DUP1)			**Source: 2003415-02**								
Chloride	3/20/20 14:01	14.6	0.500	mg/L		14.6			0.110	20	
Nitrate as N	3/20/20 14:01	ND	0.500	"		ND				20	
Matrix Spike (0C23057-MS1)			**Source: 2003415-02**								
Chloride	3/20/20 14:18	117	2.00	mg/L	100	14.6	103	75.3-124			
Nitrate as N	3/20/20 14:18	23.6	2.00	"	22.6	ND	105	58.5-131			
Matrix Spike Dup (0C23057-MSD1)			**Source: 2003415-02**								
Chloride	3/20/20 14:36	117	2.00	mg/L	100	14.6	103	75.3-124	0.133	20	
Nitrate as N	3/20/20 14:36	23.7	2.00	"	22.6	ND	105	58.5-131	0.0846	20	
Batch 0C27019 - Default Prep GenChem											
Blank (0C27019-BLK1)											
Ammonia as N	3/27/20 10:00	ND	0.21	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C27019 - Default Prep GenChem											
Blank (0C27019-BLK2)											
Ammonia as N	3/27/20 10:56	ND	0.21	mg/L							
LCS (0C27019-BS1)											
Ammonia as N	3/27/20 10:03	5.16	0.21	mg/L	5.00		103	90-110			
LCS (0C27019-BS2)											
Ammonia as N	3/27/20 11:00	5.17	0.21	mg/L	5.00		103	90-110			
LCS Dup (0C27019-BSD1)											
Ammonia as N	3/27/20 10:06	5.29	0.21	mg/L	5.00		106	90-110	2.49	10	
LCS Dup (0C27019-BSD2)											
Ammonia as N	3/27/20 11:03	5.08	0.21	mg/L	5.00		102	90-110	1.76	10	
Matrix Spike (0C27019-MS1)			**Source: 2003415-01**								
Ammonia as N	3/27/20 10:17	4.81	0.21	mg/L	5.00	0.07	94.9	90-110			
Matrix Spike (0C27019-MS2)			**Source: 2003506-02**								
Ammonia as N	3/27/20 11:14	4.83	0.21	mg/L	5.00	0.08	95.0	90-110			
Matrix Spike Dup (0C27019-MSD1)			**Source: 2003415-01**								
Ammonia as N	3/27/20 10:19	4.95	0.21	mg/L	5.00	0.07	97.7	90-110	2.87	10	
Matrix Spike Dup (0C27019-MSD2)			**Source: 2003506-02**								
Ammonia as N	3/27/20 11:16	4.91	0.21	mg/L	5.00	0.08	96.6	90-110	1.64	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23023 - EPA 200.2 DCN 1017 Rev 9											
Blank (0C23023-BLK1)											
Arsenic [HHe]	3/23/20 23:56	ND	0.00200	mg/L							
Chromium [He]	3/23/20 23:56	ND	0.00100	"							
Lead [He]	3/23/20 23:56	ND	0.00100	"							
Nickel [He]	3/23/20 23:56	ND	0.0400	"							
LCS (0C23023-BS1)											
Arsenic [HHe]	3/24/20 0:03	0.099	0.00200	mg/L	0.100		99.2	85-115			
Chromium [He]	3/24/20 0:03	0.098	0.00100	"	0.100		97.9	85-115			
Lead [He]	3/24/20 0:03	0.099	0.00100	"	0.100		99.1	85-115			
Nickel [He]	3/24/20 0:03	0.101	0.0400	"	0.100		101	85-115			
LCS Dup (0C23023-BSD1)											
Arsenic [HHe]	3/24/20 0:11	0.099	0.00200	mg/L	0.100		98.5	85-115	0.653	20	
Chromium [He]	3/24/20 0:11	0.098	0.00100	"	0.100		98.1	85-115	0.214	20	
Lead [He]	3/24/20 0:11	0.099	0.00100	"	0.100		99.0	85-115	0.151	20	
Nickel [He]	3/24/20 0:11	0.099	0.0400	"	0.100		99.5	85-115	2.00	20	
Matrix Spike (0C23023-MS1)			**Source: 2003403-01**								
Arsenic [HHe]	3/24/20 2:36	0.093	0.00200	mg/L	0.100	ND	93.5	70-130			
Chromium [He]	3/24/20 2:36	0.094	0.00100	"	0.100	ND	94.1	70-130			
Lead [He]	3/24/20 2:36	0.098	0.00100	"	0.100	ND	98.1	70-130			
Nickel [He]	3/24/20 2:36	0.095	0.0400	"	0.100	ND	94.8	70-130			
Matrix Spike Dup (0C23023-MSD1)			**Source: 2003403-01**								
Arsenic [HHe]	3/24/20 2:44	0.094	0.00200	mg/L	0.100	ND	94.0	70-130	0.521	20	
Chromium [He]	3/24/20 2:44	0.094	0.00100	"	0.100	ND	94.0	70-130	0.165	20	
Lead [He]	3/24/20 2:44	0.098	0.00100	"	0.100	ND	97.8	70-130	0.367	20	
Nickel [He]	3/24/20 2:44	0.094	0.0400	"	0.100	ND	94.5	70-130	0.350	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23044 - EPA 3520C DCN 4001 Rev 11											
Blank (0C23044-BLK1)											
Acenaphthene	4/7/20 9:04	ND	10.0	ug/L							
Acenaphthylene	4/7/20 9:04	ND	10.0	"							
Anthracene	4/7/20 9:04	ND	10.0	"							
Benzo (a) anthracene	4/7/20 9:04	ND	10.0	"							
Benzo (b) fluoranthene	4/7/20 9:04	ND	10.0	"							
Benzo (k) fluoranthene	4/7/20 9:04	ND	10.0	"							
Benzo (a) pyrene	4/7/20 9:04	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	4/7/20 9:04	ND	10.0	"							
Carbazole	4/7/20 9:04	ND	10.0	"							
4-Chloro-3-methylphenol	4/7/20 9:04	ND	10.0	"							
Chrysene	4/7/20 9:04	ND	10.0	"							
Dibenz (a,h) anthracene	4/7/20 9:04	ND	10.0	"							
Dibenzofuran	4/7/20 9:04	ND	10.0	"							
2,4-Dimethylphenol	4/7/20 9:04	ND	10.0	"							
2,4-Dinitrophenol	4/7/20 9:04	ND	10.0	"							
Di-n-octyl phthalate	4/7/20 9:04	ND	10.0	"							CC-01
Fluoranthene	4/7/20 9:04	ND	10.0	"							
Fluorene	4/7/20 9:04	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	4/7/20 9:04	ND	10.0	"							
2-Methylnaphthalene	4/7/20 9:04	ND	10.0	"							
2-Methylphenol	4/7/20 9:04	ND	10.0	"							
3 & 4-Methylphenol	4/7/20 9:04	ND	10.0	"							
Naphthalene	4/7/20 9:04	ND	10.0	"							
Pentachlorophenol	4/7/20 9:04	ND	10.0	"							
Phenanthrene	4/7/20 9:04	ND	10.0	"							
Pyrene	4/7/20 9:04	ND	10.0	"							
2,4,6-Trichlorophenol	4/7/20 9:04	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*57.6*		*"*	*100*		*57.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*28.5*		*"*	*50.0*		*56.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*44.5*		*"*	*100*		*44.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*24.4*		*"*	*50.0*		*48.8*	*10-103*			
Surrogate: Phenol-d5		*47.6*		*"*	*100*		*47.6*	*10-105*			
Surrogate: Terphenyl-dl4		*31.2*		*"*	*50.0*		*62.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23044 - EPA 3520C DCN 4001 Rev 11											
LCS (0C23044-BS1)											
Acenaphthene	4/7/20 15:19	91.5	20.0	ug/L	100		91.5	45.5-108			
Acenaphthylene	4/7/20 15:19	92.9	20.0	"	100		92.9	46.4-114			
Anthracene	4/7/20 15:19	96.6	20.0	"	100		96.6	47-106			
Benzo (a) anthracene	4/7/20 15:19	96.8	20.0	"	100		96.8	50.8-105			
Benzo (b) fluoranthene	4/7/20 15:19	96.4	20.0	"	100		96.4	47-109			
Benzo (k) fluoranthene	4/7/20 15:19	89.2	20.0	"	100		89.2	44-111			
Benzo (a) pyrene	4/7/20 15:19	92.7	20.0	"	100		92.7	52.9-103			
Bis(2-ethylhexyl)phthalate	4/7/20 15:19	106	20.0	"	100		106	36.4-121			
Carbazole	4/7/20 15:19	103	20.0	"	100		103	25-172			
4-Chloro-3-methylphenol	4/7/20 15:19	90.8	20.0	"	100		90.8	46.4-108			
Chrysene	4/7/20 15:19	99.3	20.0	"	100		99.3	46.6-100			
Dibenz (a,h) anthracene	4/7/20 15:19	90.2	20.0	"	100		90.2	46.7-102			
Dibenzofuran	4/7/20 15:19	93.1	20.0	"	100		93.1	45.8-105			
2,4-Dimethylphenol	4/7/20 15:19	74.7	20.0	"	100		74.7	41.6-101			
2,4-Dinitrophenol	4/7/20 15:19	82.0	20.0	"	100		82.0	10-131			
Di-n-octyl phthalate	4/7/20 15:19	106	20.0	"	100		106	38.6-123			CC-03
Fluoranthene	4/7/20 15:19	93.5	20.0	"	100		93.5	44.9-114			
Fluorene	4/7/20 15:19	95.6	20.0	"	100		95.6	45.6-107			
Indeno (1,2,3-cd) pyrene	4/7/20 15:19	90.5	20.0	"	100		90.5	45.8-104			
2-Methylnaphthalene	4/7/20 15:19	82.7	20.0	"	100		82.7	44.2-104			
2-Methylphenol	4/7/20 15:19	82.6	20.0	"	100		82.6	44.5-103			
3 & 4-Methylphenol	4/7/20 15:19	169	20.0	"	200		84.3	11-149			
Naphthalene	4/7/20 15:19	82.5	20.0	"	100		82.5	45-100			
Pentachlorophenol	4/7/20 15:19	89.9	20.0	"	100		89.9	17.4-124			
Phenanthrene	4/7/20 15:19	98.9	20.0	"	100		98.9	49.2-107			
Pyrene	4/7/20 15:19	105	20.0	"	100		105	31.7-124			
2,4,6-Trichlorophenol	4/7/20 15:19	93.0	20.0	"	100		93.0	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*91.8*		"	*100*		*91.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*43.7*		"	*50.0*		*87.5*	*14.7-104*			
Surrogate: 2-Fluorophenol		*62.5*		"	*100*		*62.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*41.1*		"	*50.0*		*82.2*	*10-103*			
Surrogate: Phenol-d5		*75.9*		"	*100*		*75.9*	*10-105*			
Surrogate: Terphenyl-dl4		*50.2*		"	*50.0*		*100*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23044 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0C23044-BSD1)											
Acenaphthene	4/7/20 12:12	67.1	20.0	ug/L	100		67.1	45.5-108	30.8	40	
Acenaphthylene	4/7/20 12:12	68.7	20.0	"	100		68.7	46.4-114	30.0	40	
Anthracene	4/7/20 12:12	68.7	20.0	"	100		68.7	47-106	33.8	40	
Benzo (a) anthracene	4/7/20 12:12	66.4	20.0	"	100		66.4	50.8-105	37.2	40	
Benzo (b) fluoranthene	4/7/20 12:12	69.1	20.0	"	100		69.1	47-109	33.0	40	
Benzo (k) fluoranthene	4/7/20 12:12	67.3	20.0	"	100		67.3	44-111	28.0	40	
Benzo (a) pyrene	4/7/20 12:12	65.4	20.0	"	100		65.4	52.9-103	34.5	40	
Bis(2-ethylhexyl)phthalate	4/7/20 12:12	116	20.0	"	100		116	36.4-121	8.64	40	
Carbazole	4/7/20 12:12	87.7	20.0	"	100		87.7	25-172	15.8	40	
4-Chloro-3-methylphenol	4/7/20 12:12	68.3	20.0	"	100		68.3	46.4-108	28.3	40	
Chrysene	4/7/20 12:12	67.5	20.0	"	100		67.5	46.6-100	38.1	40	
Dibenz (a,h) anthracene	4/7/20 12:12	63.1	20.0	"	100		63.1	46.7-102	35.3	40	
Dibenzofuran	4/7/20 12:12	68.3	20.0	"	100		68.3	45.8-105	30.8	40	
2,4-Dimethylphenol	4/7/20 12:12	57.5	20.0	"	100		57.5	41.6-101	25.9	40	
2,4-Dinitrophenol	4/7/20 12:12	60.1	20.0	"	100		60.1	10-131	30.9	40	
Di-n-octyl phthalate	4/7/20 12:12	117	20.0	"	100		117	38.6-123	9.15	40	CC-03
Fluoranthene	4/7/20 12:12	88.3	20.0	"	100		88.3	44.9-114	5.68	40	
Fluorene	4/7/20 12:12	68.8	20.0	"	100		68.8	45.6-107	32.6	40	
Indeno (1,2,3-cd) pyrene	4/7/20 12:12	63.0	20.0	"	100		63.0	45.8-104	35.8	40	
2-Methylnaphthalene	4/7/20 12:12	64.5	20.0	"	100		64.5	44.2-104	24.8	40	
2-Methylphenol	4/7/20 12:12	63.2	20.0	"	100		63.2	44.5-103	26.5	40	
3 & 4-Methylphenol	4/7/20 12:12	132	20.0	"	200		66.0	11-149	24.4	40	
Naphthalene	4/7/20 12:12	64.5	20.0	"	100		64.5	45-100	24.5	40	
Pentachlorophenol	4/7/20 12:12	68.5	20.0	"	100		68.5	17.4-124	26.9	40	
Phenanthrene	4/7/20 12:12	69.2	20.0	"	100		69.2	49.2-107	35.3	40	
Pyrene	4/7/20 12:12	69.0	20.0	"	100		69.0	31.7-124	41.0	40	L3
2,4,6-Trichlorophenol	4/7/20 12:12	68.6	20.0	"	100		68.6	41.7-110	30.2	40	
Surrogate: 2,4,6-Tribromophenol		*67.1*		"	*100*		*67.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*33.1*		"	*50.0*		*66.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*50.2*		"	*100*		*50.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*32.8*		"	*50.0*		*65.6*	*10-103*			
Surrogate: Phenol-d5		*60.0*		"	*100*		*60.0*	*10-105*			
Surrogate: Terphenyl-dl4		*33.5*		"	*50.0*		*67.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C23044 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0C23044-DUP1)			**Source: 2003414-08**								
Acenaphthene	4/8/20 12:25	17.2	10.5	ug/L		20.2			16.1	45	
Acenaphthylene	4/8/20 12:25	ND	10.5	"		ND				45	
Anthracene	4/8/20 12:25	20.1	10.5	"		18.1			10.8	45	
Benzo (a) anthracene	4/8/20 12:25	65.4	10.5	"		74.0			12.3	45	
Benzo (b) fluoranthene	4/8/20 12:25	54.8	10.5	"		76.6			33.2	45	
Benzo (k) fluoranthene	4/8/20 12:25	19.0	10.5	"		28.2			39.1	45	
Benzo (a) pyrene	4/8/20 12:25	33.3	10.5	"		47.8			35.6	45	
Bis(2-ethylhexyl)phthalate	4/8/20 12:25	ND	10.5	"		ND				45	
Carbazole	4/8/20 12:25	ND	10.5	"		ND				45	
4-Chloro-3-methylphenol	4/8/20 12:25	ND	10.5	"		ND				45	
Chrysene	4/8/20 12:25	67.4	10.5	"		75.3			11.0	45	
Dibenz (a,h) anthracene	4/8/20 12:25	ND	10.5	"		ND				45	
Dibenzofuran	4/8/20 12:25	ND	10.5	"		ND				45	
2,4-Dimethylphenol	4/8/20 12:25	ND	10.5	"		ND				45	
2,4-Dinitrophenol	4/8/20 12:25	ND	10.5	"		ND				45	
Di-n-octyl phthalate	4/8/20 12:25	ND	10.5	"		ND				45	
Fluoranthene	4/8/20 14:17	203	105	"		170			17.5	45	
Fluorene	4/8/20 12:25	17.0	10.5	"		17.0			0.370	45	
Indeno (1,2,3-cd) pyrene	4/8/20 12:25	11.4	10.5	"		11.5			1.56	45	
2-Methylnaphthalene	4/8/20 12:25	ND	10.5	"		ND				45	
2-Methylphenol	4/8/20 12:25	ND	10.5	"		ND				45	
3 & 4-Methylphenol	4/8/20 12:25	ND	10.5	"		ND				45	
Naphthalene	4/8/20 12:25	ND	10.5	"		ND				45	
Pentachlorophenol	4/8/20 12:25	28.2	10.5	"		23.0			20.0	45	
Phenanthrene	4/8/20 12:25	84.3	10.5	"		70.0			18.6	45	
Pyrene	4/8/20 14:17	149	105	"		147			1.06	45	
2,4,6-Trichlorophenol	4/8/20 12:25	ND	10.5	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*73.4*		*"*	*105*		*70.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*37.3*		*"*	*52.4*		*71.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*68.7*		*"*	*105*		*65.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*36.1*		*"*	*52.4*		*69.0*	*10-103*			
Surrogate: Phenol-d5		*67.0*		*"*	*105*		*64.0*	*10-105*			
Surrogate: Terphenyl-dl4		*29.1*		*"*	*52.4*		*55.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Blank (0C25015-BLK1)											
Acenaphthene	3/25/20 16:52	ND	10.0	ug/L							
Acenaphthylene	3/25/20 16:52	ND	10.0	"							
Anthracene	3/25/20 16:52	ND	10.0	"							
Benzo (a) anthracene	3/25/20 16:52	ND	10.0	"							
Benzo (b) fluoranthene	3/25/20 16:52	ND	10.0	"							
Benzo (k) fluoranthene	3/25/20 16:52	ND	10.0	"							
Benzo (a) pyrene	3/25/20 16:52	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/25/20 16:52	ND	10.0	"							
Carbazole	3/25/20 16:52	ND	10.0	"							
4-Chloro-3-methylphenol	3/25/20 16:52	ND	10.0	"							
Chrysene	3/25/20 16:52	ND	10.0	"							
Dibenz (a,h) anthracene	3/25/20 16:52	ND	10.0	"							
Dibenzofuran	3/25/20 16:52	ND	10.0	"							
2,4-Dimethylphenol	3/25/20 16:52	ND	10.0	"							
2,4-Dinitrophenol	3/25/20 16:52	ND	10.0	"							
Di-n-octyl phthalate	3/25/20 16:52	ND	10.0	"							
Fluoranthene	3/25/20 16:52	ND	10.0	"							
Fluorene	3/25/20 16:52	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/25/20 16:52	ND	10.0	"							
2-Methylnaphthalene	3/25/20 16:52	ND	10.0	"							
2-Methylphenol	3/25/20 16:52	ND	10.0	"							
3 & 4-Methylphenol	3/25/20 16:52	ND	10.0	"							
Naphthalene	3/25/20 16:52	ND	10.0	"							
Pentachlorophenol	3/25/20 16:52	ND	10.0	"							
Phenanthrene	3/25/20 16:52	ND	10.0	"							
Pyrene	3/25/20 16:52	ND	10.0	"							
2,4,6-Trichlorophenol	3/25/20 16:52	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*5.44*		"	*10.0*		*54.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.15*		"	*5.00*		*63.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.59*		"	*10.0*		*55.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.68*		"	*5.00*		*53.6*	*10-103*			
Surrogate: Phenol-d5		*5.50*		"	*10.0*		*55.0*	*10-105*			
Surrogate: Terphenyl-dl4		*2.84*		"	*5.00*		*56.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
LCS (0C25015-BS1)											
Acenaphthene	3/25/20 17:30	6.67	10.0	ug/L	10.0		66.7	45.5-108			
Acenaphthylene	3/25/20 17:30	6.45	10.0	"	10.0		64.5	46.4-114			
Anthracene	3/25/20 17:30	6.82	10.0	"	10.0		68.2	47-106			
Benzo (a) anthracene	3/25/20 17:30	6.65	10.0	"	10.0		66.5	50.8-105			
Benzo (b) fluoranthene	3/25/20 17:30	6.87	10.0	"	10.0		68.7	47-109			
Benzo (k) fluoranthene	3/25/20 17:30	6.83	10.0	"	10.0		68.3	44-111			
Benzo (a) pyrene	3/25/20 17:30	6.92	10.0	"	10.0		69.2	52.9-103			
Bis(2-ethylhexyl)phthalate	3/25/20 17:30	6.46	10.0	"	10.0		64.6	36.4-121			
Carbazole	3/25/20 17:30	7.08	10.0	"	10.0		70.8	25-172			
4-Chloro-3-methylphenol	3/25/20 17:30	6.31	10.0	"	10.0		63.1	46.4-108			
Chrysene	3/25/20 17:30	6.70	10.0	"	10.0		67.0	46.6-100			
Dibenz (a,h) anthracene	3/25/20 17:30	8.08	10.0	"	10.0		80.8	46.7-102			
Dibenzofuran	3/25/20 17:30	6.50	10.0	"	10.0		65.0	45.8-105			
2,4-Dimethylphenol	3/25/20 17:30	4.36	10.0	"	10.0		43.6	41.6-101			
2,4-Dinitrophenol	3/25/20 17:30	5.48	10.0	"	10.0		54.8	10-131			
Di-n-octyl phthalate	3/25/20 17:30	6.64	10.0	"	10.0		66.4	38.6-123			
Fluoranthene	3/25/20 17:30	7.09	10.0	"	10.0		70.9	44.9-114			
Fluorene	3/25/20 17:30	6.80	10.0	"	10.0		68.0	45.6-107			
Indeno (1,2,3-cd) pyrene	3/25/20 17:30	7.78	10.0	"	10.0		77.8	45.8-104			
2-Methylnaphthalene	3/25/20 17:30	6.06	10.0	"	10.0		60.6	44.2-104			
2-Methylphenol	3/25/20 17:30	6.05	10.0	"	10.0		60.5	44.5-103			
3 & 4-Methylphenol	3/25/20 17:30	12.3	10.0	"	20.0		61.5	11-149			
Naphthalene	3/25/20 17:30	6.26	10.0	"	10.0		62.6	45-100			
Pentachlorophenol	3/25/20 17:30	6.24	10.0	"	10.0		62.4	17.4-124			
Phenanthrene	3/25/20 17:30	6.89	10.0	"	10.0		68.9	49.2-107			
Pyrene	3/25/20 17:30	5.58	10.0	"	10.0		55.8	31.7-124			
2,4,6-Trichlorophenol	3/25/20 17:30	6.53	10.0	"	10.0		65.3	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*6.52*		"	*10.0*		*65.2*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.17*		"	*5.00*		*63.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.65*		"	*10.0*		*56.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.30*		"	*5.00*		*66.0*	*10-103*			
Surrogate: Phenol-d5		*5.84*		"	*10.0*		*58.4*	*10-105*			
Surrogate: Terphenyl-dl4		*2.84*		"	*5.00*		*56.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0C25015-BSD1)											
Acenaphthene	3/25/20 18:08	6.90	10.0	ug/L	10.0		69.0	45.5-108	3.39	40	
Acenaphthylene	3/25/20 18:08	6.55	10.0	"	10.0		65.5	46.4-114	1.54	40	
Anthracene	3/25/20 18:08	6.92	10.0	"	10.0		69.2	47-106	1.46	40	
Benzo (a) anthracene	3/25/20 18:08	6.94	10.0	"	10.0		69.4	50.8-105	4.27	40	
Benzo (b) fluoranthene	3/25/20 18:08	6.76	10.0	"	10.0		67.6	47-109	1.61	40	
Benzo (k) fluoranthene	3/25/20 18:08	7.15	10.0	"	10.0		71.5	44-111	4.58	40	
Benzo (a) pyrene	3/25/20 18:08	7.35	10.0	"	10.0		73.5	52.9-103	6.03	40	
Bis(2-ethylhexyl)phthalate	3/25/20 18:08	6.64	10.0	"	10.0		66.4	36.4-121	2.75	40	
Carbazole	3/25/20 18:08	7.33	10.0	"	10.0		73.3	25-172	3.47	40	
4-Chloro-3-methylphenol	3/25/20 18:08	6.65	10.0	"	10.0		66.5	46.4-108	5.25	40	
Chrysene	3/25/20 18:08	7.12	10.0	"	10.0		71.2	46.6-100	6.08	40	
Dibenz (a,h) anthracene	3/25/20 18:08	8.75	10.0	"	10.0		87.5	46.7-102	7.96	40	
Dibenzofuran	3/25/20 18:08	6.70	10.0	"	10.0		67.0	45.8-105	3.03	40	
2,4-Dimethylphenol	3/25/20 18:08	6.02	10.0	"	10.0		60.2	41.6-101	32.0	40	
2,4-Dinitrophenol	3/25/20 18:08	5.33	10.0	"	10.0		53.3	10-131	2.78	40	
Di-n-octyl phthalate	3/25/20 18:08	6.46	10.0	"	10.0		64.6	38.6-123	2.75	40	
Fluoranthene	3/25/20 18:08	7.22	10.0	"	10.0		72.2	44.9-114	1.82	40	
Fluorene	3/25/20 18:08	6.97	10.0	"	10.0		69.7	45.6-107	2.47	40	
Indeno (1,2,3-cd) pyrene	3/25/20 18:08	8.61	10.0	"	10.0		86.1	45.8-104	10.1	40	
2-Methylnaphthalene	3/25/20 18:08	6.35	10.0	"	10.0		63.5	44.2-104	4.67	40	
2-Methylphenol	3/25/20 18:08	6.63	10.0	"	10.0		66.3	44.5-103	9.15	40	
3 & 4-Methylphenol	3/25/20 18:08	13.5	10.0	"	20.0		67.7	11-149	9.68	40	
Naphthalene	3/25/20 18:08	6.62	10.0	"	10.0		66.2	45-100	5.59	40	
Pentachlorophenol	3/25/20 18:08	6.32	10.0	"	10.0		63.2	17.4-124	1.27	40	
Phenanthrene	3/25/20 18:08	6.95	10.0	"	10.0		69.5	49.2-107	0.867	40	
Pyrene	3/25/20 18:08	5.28	10.0	"	10.0		52.8	31.7-124	5.52	40	
2,4,6-Trichlorophenol	3/25/20 18:08	6.74	10.0	"	10.0		67.4	41.7-110	3.17	40	
Surrogate: 2,4,6-Tribromophenol		*6.49*		*"*	*10.0*		*64.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.22*		*"*	*5.00*		*64.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.82*		*"*	*10.0*		*58.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.39*		*"*	*5.00*		*67.8*	*10-103*			
Surrogate: Phenol-d5		*6.07*		*"*	*10.0*		*60.7*	*10-105*			
Surrogate: Terphenyl-dl4		*2.70*		*"*	*5.00*		*54.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0C25015-DUP1)			**Source: 2003392-04**								
Acenaphthene	3/26/20 21:30	ND	11.0	ug/L		ND				45	
Acenaphthylene	3/26/20 21:30	ND	11.0	"		ND				45	
Anthracene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (a) anthracene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (b) fluoranthene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (k) fluoranthene	3/26/20 21:30	ND	11.0	"		ND				45	
Benzo (a) pyrene	3/26/20 21:30	ND	11.0	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/26/20 21:30	ND	11.0	"		ND				45	
Carbazole	3/26/20 21:30	ND	11.0	"		ND				45	
4-Chloro-3-methylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
Chrysene	3/26/20 21:30	ND	11.0	"		ND				45	
Dibenz (a,h) anthracene	3/26/20 21:30	ND	11.0	"		ND				45	
Dibenzofuran	3/26/20 21:30	ND	11.0	"		ND				45	
2,4-Dimethylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
2,4-Dinitrophenol	3/26/20 21:30	ND	11.0	"		ND				45	
Di-n-octyl phthalate	3/26/20 21:30	ND	11.0	"		ND				45	
Fluoranthene	3/26/20 21:30	ND	11.0	"		ND				45	
Fluorene	3/26/20 21:30	ND	11.0	"		ND				45	
Indeno (1,2,3-cd) pyrene	3/26/20 21:30	ND	11.0	"		ND				45	
2-Methylnaphthalene	3/26/20 21:30	ND	11.0	"		ND				45	
2-Methylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
3 & 4-Methylphenol	3/26/20 21:30	ND	11.0	"		ND				45	
Naphthalene	3/26/20 21:30	ND	11.0	"		ND				45	
Pentachlorophenol	3/26/20 21:30	ND	11.0	"		ND				45	
Phenanthrene	3/26/20 21:30	ND	11.0	"		ND				45	
Pyrene	3/26/20 21:30	ND	11.0	"		ND				45	
2,4,6-Trichlorophenol	3/26/20 21:30	ND	11.0	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.81*		*"*	*11.0*		*52.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.63*		*"*	*5.52*		*47.6*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.07*		*"*	*11.0*		*27.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.71*		*"*	*5.52*		*49.0*	*10-103*			
Surrogate: Phenol-d5		*1.93*		*"*	*11.0*		*17.5*	*10-105*			
Surrogate: Terphenyl-dl4		*3.39*		*"*	*5.52*		*61.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (0C25015-MS1)			**Source: 2003392-04**								
Acenaphthene	3/26/20 22:07	5.55	11.0	ug/L	11.0	ND	50.5	21.2-106			
Acenaphthylene	3/26/20 22:07	5.46	11.0	"	11.0	ND	49.7	23.7-113			
Anthracene	3/26/20 22:07	6.60	11.0	"	11.0	ND	60.1	32.7-100			
Benzo (a) anthracene	3/26/20 22:07	6.58	11.0	"	11.0	ND	59.9	35.6-101			
Benzo (b) fluoranthene	3/26/20 22:07	6.70	11.0	"	11.0	ND	61.0	38.4-100			
Benzo (k) fluoranthene	3/26/20 22:07	6.84	11.0	"	11.0	ND	62.2	29.6-107			
Benzo (a) pyrene	3/26/20 22:07	6.79	11.0	"	11.0	ND	61.8	32.7-102			
Bis(2-ethylhexyl)phthalate	3/26/20 22:07	7.75	11.0	"	11.0	ND	70.5	28.4-112			
Carbazole	3/26/20 22:07	6.68	11.0	"	11.0	ND	60.8	24.9-167			
4-Chloro-3-methylphenol	3/26/20 22:07	5.49	11.0	"	11.0	ND	50.0	20.7-115			
Chrysene	3/26/20 22:07	6.73	11.0	"	11.0	ND	61.2	30.8-100			
Dibenz (a,h) anthracene	3/26/20 22:07	7.20	11.0	"	11.0	ND	65.5	32.3-103			
Dibenzofuran	3/26/20 22:07	5.58	11.0	"	11.0	ND	50.8	29.1-105			
2,4-Dimethylphenol	3/26/20 22:07	4.96	11.0	"	11.0	ND	45.1	15.6-114			
2,4-Dinitrophenol	3/26/20 22:07	5.48	11.0	"	11.0	ND	49.9	10-110			
Di-n-octyl phthalate	3/26/20 22:07	7.53	11.0	"	11.0	ND	68.5	19.2-118			
Fluoranthene	3/26/20 22:07	6.57	11.0	"	11.0	ND	59.8	31.9-106			
Fluorene	3/26/20 22:07	6.13	11.0	"	11.0	ND	55.8	28.1-104			
Indeno (1,2,3-cd) pyrene	3/26/20 22:07	7.38	11.0	"	11.0	ND	67.2	29.6-105			
2-Methylnaphthalene	3/26/20 22:07	4.57	11.0	"	11.0	ND	41.6	18.5-106			
2-Methylphenol	3/26/20 22:07	4.37	11.0	"	11.0	ND	39.8	10-106			
3 & 4-Methylphenol	3/26/20 22:07	8.13	11.0	"	22.0	ND	37.0	10-139			
Naphthalene	3/26/20 22:07	4.81	11.0	"	11.0	ND	43.8	17-100			
Pentachlorophenol	3/26/20 22:07	6.12	11.0	"	11.0	ND	55.7	10-119			
Phenanthrene	3/26/20 22:07	6.57	11.0	"	11.0	ND	59.8	34.8-106			
Pyrene	3/26/20 22:07	7.67	11.0	"	11.0	ND	69.8	10-127			
2,4,6-Trichlorophenol	3/26/20 22:07	5.76	11.0	"	11.0	ND	52.4	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*5.36*		*"*	*11.0*		*48.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.16*		*"*	*5.49*		*39.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.41*		*"*	*11.0*		*21.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.45*		*"*	*5.49*		*44.6*	*10-103*			
Surrogate: Phenol-d5		*1.58*		*"*	*11.0*		*14.4*	*10-105*			
Surrogate: Terphenyl-dl4		*2.63*		*"*	*5.49*		*47.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C25015 - EPA 3510C DCN 4000 Rev 12											
Blank (0C25015-BLK1)											
Pentachlorophenol	3/25/20 16:52	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*5.44*		"	*10.0*		*54.4*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.59*		"	*10.0*		*55.9*	*12.7-100*			
Surrogate: Phenol-d5		*5.50*		"	*10.0*		*55.0*	*16.1-100*			
LCS (0C25015-BS1)											
Pentachlorophenol	3/25/20 17:30	6.24	1.00	ug/L	10.0		62.4	10-144			
Surrogate: 2,4,6-Tribromophenol		*6.52*		"	*10.0*		*65.2*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.65*		"	*10.0*		*56.5*	*12.7-100*			
Surrogate: Phenol-d5		*5.84*		"	*10.0*		*58.4*	*16.1-100*			
LCS Dup (0C25015-BSD1)											
Pentachlorophenol	3/25/20 18:08	6.32	1.00	ug/L	10.0		63.2	10-144	1.27	40	
Surrogate: 2,4,6-Tribromophenol		*6.49*		"	*10.0*		*64.9*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.82*		"	*10.0*		*58.2*	*12.7-100*			
Surrogate: Phenol-d5		*6.07*		"	*10.0*		*60.7*	*16.1-100*			
Duplicate (0C25015-DUP1)			**Source: 2003392-04**								
Pentachlorophenol	3/26/20 21:30	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.81*		"	*11.0*		*52.6*	*16.2-100*			
Surrogate: 2-Fluorophenol		*3.07*		"	*11.0*		*27.8*	*12.7-100*			
Surrogate: Phenol-d5		*1.93*		"	*11.0*		*17.5*	*16.1-100*			
Matrix Spike (0C25015-MS1)			**Source: 2003392-04**								
Pentachlorophenol	3/26/20 22:07	6.12	1.00	ug/L	11.0	ND	55.7	20.7-138			
Surrogate: 2,4,6-Tribromophenol		*5.36*		"	*11.0*		*48.8*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.41*		"	*11.0*		*21.9*	*12.7-100*			
Surrogate: Phenol-d5		*1.58*		"	*11.0*		*14.4*	*16.1-100*			*SR05*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C31027 - EPA 5030B											
Blank (0C31027-BLK1)											
Benzene	3/30/20 14:07	ND	5.00	ug/L							
Ethylbenzene	3/30/20 14:07	ND	5.00	"							
Surrogate: Dibromofluoromethane		*57.6*		"	*50.0*		*115*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.7*		"	*50.0*		*99.5*	*70-130*			
Surrogate: Toluene-d8		*47.8*		"	*50.0*		*95.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.4*		"	*50.0*		*109*	*70-130*			
LCS (0C31027-BS1)											
Benzene	3/30/20 14:34	21.7	5.00	ug/L	20.0		109	79.8-135			
Ethylbenzene	3/30/20 14:34	20.9	5.00	"	20.0		105	79.9-137			
Surrogate: Dibromofluoromethane		*53.4*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.7*		"	*50.0*		*97.5*	*70-130*			
Surrogate: Toluene-d8		*47.2*		"	*50.0*		*94.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.2*		"	*50.0*		*104*	*70-130*			
LCS Dup (0C31027-BSD1)											
Benzene	3/30/20 15:00	21.9	5.00	ug/L	20.0		109	79.8-135	0.642	30	
Ethylbenzene	3/30/20 15:00	19.8	5.00	"	20.0		98.8	79.9-137	5.75	30	
Surrogate: Dibromofluoromethane		*55.1*		"	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.3*		"	*50.0*		*103*	*70-130*			
Surrogate: Toluene-d8		*45.3*		"	*50.0*		*90.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.3*		"	*50.0*		*98.7*	*70-130*			
Matrix Spike (0C31027-MS1)			**Source: 2003567-01**								
Benzene	3/30/20 16:46	23.4	5.00	ug/L	20.0	ND	117	83.5-141			
Ethylbenzene	3/30/20 16:46	22.1	5.00	"	20.0	ND	111	62.1-158			
Surrogate: Dibromofluoromethane		*55.9*		"	*50.0*		*112*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.8*		"	*50.0*		*97.6*	*70-130*			
Surrogate: Toluene-d8		*48.1*		"	*50.0*		*96.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.0*		"	*50.0*		*108*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0C31027 - EPA 5030B											
Matrix Spike Dup (0C31027-MSD1)			**Source: 2003567-01**								
Benzene	3/30/20 17:12	24.6	5.00	ug/L	20.0	ND	123	83.5-141	5.05	35	
Ethylbenzene	3/30/20 17:12	23.0	5.00	"	20.0	ND	115	62.1-158	3.94	35	
Surrogate: Dibromofluoromethane		*56.5*		*"*	*50.0*		*113*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.3*		*"*	*50.0*		*98.7*	*70-130*			
Surrogate: Toluene-d8		*45.0*		*"*	*50.0*		*90.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.2*		*"*	*50.0*		*102*	*70-130*			
Batch 0D01016 - EPA 5030B											
Blank (0D01016-BLK1)											
Benzene	3/31/20 9:25	ND	5.00	ug/L							
Ethylbenzene	3/31/20 9:25	ND	5.00	"							
Surrogate: Dibromofluoromethane		*56.3*		*"*	*50.0*		*113*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.2*		*"*	*50.0*		*98.4*	*70-130*			
Surrogate: Toluene-d8		*49.1*		*"*	*50.0*		*98.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*45.8*		*"*	*50.0*		*91.6*	*70-130*			
LCS (0D01016-BS1)											
Benzene	3/31/20 9:52	21.2	5.00	ug/L	20.0		106	79.8-135			
Ethylbenzene	3/31/20 9:52	21.7	5.00	"	20.0		109	79.9-137			
Surrogate: Dibromofluoromethane		*56.8*		*"*	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.9*		*"*	*50.0*		*97.7*	*70-130*			
Surrogate: Toluene-d8		*44.5*		*"*	*50.0*		*88.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*45.8*		*"*	*50.0*		*91.7*	*70-130*			
LCS Dup (0D01016-BSD1)											
Benzene	3/31/20 10:18	20.4	5.00	ug/L	20.0		102	79.8-135	3.90	30	
Ethylbenzene	3/31/20 10:18	18.9	5.00	"	20.0		94.3	79.9-137	14.2	30	
Surrogate: Dibromofluoromethane		*54.5*		*"*	*50.0*		*109*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.5*		*"*	*50.0*		*99.1*	*70-130*			
Surrogate: Toluene-d8		*45.5*		*"*	*50.0*		*91.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.7*		*"*	*50.0*		*101*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0D01016 - EPA 5030B											
Matrix Spike (0D01016-MS1)			**Source: 2003544-02**								
Benzene	3/31/20 15:46	21.8	5.00	ug/L	20.0	1.27	103	83.5-141			
Ethylbenzene	3/31/20 15:46	15.4	5.00	"	20.0	0.850	72.8	62.1-158			
Surrogate: Dibromofluoromethane		*55.8*		"	*50.0*		*112*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.8*		"	*50.0*		*97.6*	*70-130*			
Surrogate: Toluene-d8		*40.1*		"	*50.0*		*80.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.5*		"	*50.0*		*99.0*	*70-130*			
Matrix Spike Dup (0D01016-MSD1)			**Source: 2003544-02**								
Benzene	3/31/20 16:13	21.8	5.00	ug/L	20.0	1.27	103	83.5-141	0.0459	35	
Ethylbenzene	3/31/20 16:13	16.2	5.00	"	20.0	0.850	76.6	62.1-158	4.82	35	
Surrogate: Dibromofluoromethane		*57.5*		"	*50.0*		*115*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.8*		"	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*40.7*		"	*50.0*		*81.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.2*		"	*50.0*		*100*	*70-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 04/09/2020 14:03

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
04/09/2020 14:03

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2020*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2020*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/09/2020 14:03

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Kristy L. Pierce	KLP
Sarah E. Tomek	SET
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2003415

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 30404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	
Project Name:	MOBILE CFI 1ST QTR
Project #:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

×Normal __Next Day* __2nd Day* __Other*_____

*All rush order requests must be prior approved.

__Phone __Mail __Fax __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	CHLORIDE NITRATE	AMMONIA	METALS	BNA	VOA
RW-9	3-19-20/10:45	W	6	G	X	X		X	X
RW-8A	3-19-20/11:30	W	9	G	X	X	X	X	X
TBV#6392	3-19-20/10:45	W	2	G					X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: Y / N Thermometer# 4 Cooler # Client **Receipt Temp Corrected(°C)** -0.4°C

Date & Time _____ By: _____ Sample ___ Blank X Cooler ___

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3-20-20	8:09
Received by	Sarah Tomek	Sarah Tomek	MM	3/20/2020	0809
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

August 21, 2020

Ethan Allen

Work Order # : 2007556

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 07/29/2020 15:58. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-1	2007556-01	Water	07/29/2020 10:40	*Jeff Gonsoulin*	07/29/2020 15:58
Mobile/RW-2	2007556-02	Water	07/29/2020 10:50	*Jeff Gonsoulin*	07/29/2020 15:58
Trip Blank TBV#6494	2007556-03	Water	07/29/2020 10:40	*Micro Methods*	07/29/2020 15:58

Sample Receipt Conditions

Date/Time Received: 7/29/2020 3:58:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 7/30/2020 7:39:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	08/21/2020 13:39

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found. Both pH samples received out of hold time.- SET

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

Extraction Technician Comments-KLP:
Sample RW-2 was used as DUPLICATE on LL extraction. Visible difference between sample and sample duplicate.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	08/21/2020 13:39

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5

0H05064-BLK1, 0H05064-BS1, 0H05064-BSD1, 0H05064-DUP1, 2007556-01[Mobile/RW-1], 2007556-02[Mobile/RW-2]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

4-Chloro-3-methylphenol, Di-n-octyl phthalate

0H05064-BLK1, 0H05064-DUP1, 2007556-01[Mobile/RW-1], 0H03042-DUP1, 2007556-02[Mobile/RW-2]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

4-Chloro-3-methylphenol, Di-n-octyl phthalate

0H05064-BS1, 0H05064-BSD1, 0H03042-MS1

L1 LCS and/or LCSD Recovery Limit exceeded.

Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

0H03042-BS1

L3 LCS/LCSD Precision Limit exceeded.

Pyrene

0H03042-BSD1

M1 MS/MSD Recovery limit exceeded.

Acenaphthene, Anthracene, Benzo (a) anthracene, Chrysene, Dibenz (a,h) anthracene, Dibenzofuran, Indeno (1,2,3-cd) pyrene, Pyrene

0H03042-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, Dibenzofuran, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene

0H05064-DUP1, 0H03042-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Terphenyl-dl4

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	08/21/2020 13:39

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

2007556-01[Mobile/RW-1]

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2007556-01[Mobile/RW-1], 2007556-02[Mobile/RW-2]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Mobile/RW-1

2007556-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0H05058	CRLV	08/05/2020 08:26	08/17/2020 11:20	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.102	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.133	*65.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.755	*370 %*	*11.3-166*		"	CRLV	"	"	"	*SR06*
Classical Chemistry Parameters										
Chloride	**33.0**	0.500	mg/L	1.0	0G30059	DLW	07/30/2020 12:25	07/30/2020 12:25	SM 4110B 2011	
Nitrate as N	ND	1.00	"	2.0	"	DLW	"	07/30/2020 13:05	"	
Ammonia as N	**2.40**	0.21	"	1.0	0G30052	AKL	07/30/2020 13:42	07/30/2020 15:02	Lachat 10-107-06-1-I	
pH	**7.39**		pH Units	"	0G31004	TKM	07/31/2020 08:35	07/31/2020 08:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**504**		umhos/cm @25.0 C	"	0H03032	GMS	08/03/2020 09:10	08/03/2020 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0G31009	CLV	07/31/2020 09:10	08/03/2020 17:19	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	**0.00164**	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Mobile/RW-1

2007556-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.5	ug/L	1.0	0H05064	CRLV	08/05/2020 09:37	08/11/2020 13:43	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	CC-01
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	8.22	*39.1 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	3.46	*32.9 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.41	*16.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.79	*26.5 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.20	*10.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	3.37	*32.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0H05064	CRLV	"	08/11/2020 13:43	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	8.22	*39.1 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.41	*16.2 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.20	*10.5 %*	*16.1-100*	"	CRLV	"	"	"	*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Mobile/RW-1

2007556-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0G30049	SAD	07/30/2020 08:00	07/30/2020 17:58	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.5	*109 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	48.7	*97.4 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	45.7	*91.4 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	49.7	*99.5 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Mobile/RW-2

2007556-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**44.2**	1.00	mg/L	2.0	0G30059	DLW	07/30/2020 13:25	07/30/2020 13:25	SM 4110B 2011	
Nitrate as N	ND	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**0.61**	0.21	"	1.0	0G30052	AKL	07/30/2020 13:42	07/30/2020 15:03	Lachat 10-107-06-1-I	
pH	**6.29**		pH Units	"	0G31004	TKM	07/31/2020 08:40	07/31/2020 08:40	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**332**		umhos/cm @25.0 C	"	0H03032	GMS	08/03/2020 09:10	08/03/2020 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00275**	0.00200	mg/L	1.0	0G31009	CLV	07/31/2020 09:10	08/03/2020 17:27	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	**0.00105**	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Mobile/RW-2

2007556-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**677**	510	ug/L	50.0	0H03042	CRLV	08/03/2020 11:30	08/13/2020 00:30	EPA 8270D	
Acenaphthylene	ND	10.2	"	1.0	"	CRLV	"	08/07/2020 01:24	"	
Anthracene	**138**	51.0	"	5.0	"	CRLV	"	08/06/2020 20:52	"	
Benzo (a) anthracene	**91.8**	51.0	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**49.9**	10.2	"	1.0	"	CRLV	"	08/07/2020 01:24	"	
Benzo (k) fluoranthene	**19.0**	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**29.7**	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	**59.9**	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	**62.4**	51.0	"	5.0	"	CRLV	"	08/06/2020 20:52	"	
Dibenz (a,h) anthracene	ND	10.2	"	1.0	"	CRLV	"	08/07/2020 01:24	"	
Dibenzofuran	**410**	102	"	10.0	"	CRLV	"	08/10/2020 18:52	"	
2,4-Dimethylphenol	ND	10.2	"	1.0	"	CRLV	"	08/07/2020 01:24	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**617**	102	"	10.0	"	CRLV	"	08/10/2020 18:52	"	
Fluorene	**678**	102	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	1.0	"	CRLV	"	08/07/2020 01:24	"	
2-Methylnaphthalene	**135**	51.0	"	5.0	"	CRLV	"	08/06/2020 20:52	"	
2-Methylphenol	ND	10.2	"	1.0	"	CRLV	"	08/07/2020 01:24	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**322**	51.0	"	5.0	"	CRLV	"	08/06/2020 20:52	"	
Phenanthrene	**1660**	510	"	50.0	"	CRLV	"	08/13/2020 00:30	"	
Pyrene	**457**	102	"	10.0	"	CRLV	"	08/10/2020 18:52	"	
2,4,6-Trichlorophenol	ND	10.2	"	1.0	"	CRLV	"	08/07/2020 01:24	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	60.7	*59.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	38.9	*76.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	78.7	*77.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	26.2	*51.3 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	62.9	*61.7 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	32.1	*62.9 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0H05064	CRLV	08/05/2020 09:37	08/11/2020 14:20	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Mobile/RW-2

2007556-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	5.61	*27.5 %*	*16.2-100*		*0H05064*	CRLV	*08/05/2020 09:37*	"	"	
2-Fluorophenol	3.38	*16.6 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	2.19	*10.8 %*	*16.1-100*		"	CRLV	"	"	"	*SR05*
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0G30049	SAD	07/30/2020 08:00	07/30/2020 18:24	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	54.7	*109 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	48.8	*97.7 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	45.9	*91.9 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	51.4	*103 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Trip Blank TBV#6494

2007556-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0G30049	SAD	07/30/2020 08:00	07/30/2020 18:51	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.0	*110 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	48.8	*97.6 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	45.7	*91.3 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	50.7	*101 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05058 - EPA 3510C DCN 4000 Rev 12											
Blank (0H05058-BLK1)											
Benzo (a) pyrene	8/14/20 16:22	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.100*		*"*	*0.200*		*50.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.140*		*"*	*0.200*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.180*		*"*	*0.200*		*90.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05058 - EPA 3510C DCN 4000 Rev 12											
LCS (0H05058-BS1)											
Benzo (a) pyrene	8/14/20 17:03	0.10	0.06	ug/L	0.200		50.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.110*		"	*0.200*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		"	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.180*		"	*0.200*		*90.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05058 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0H05058-BSD1)											
Benzo (a) pyrene	8/17/20 10:39	0.11	0.06	ug/L	0.200		55.0	10-149	9.52	40	
Surrogate: 2-Fluorobiphenyl		*0.110*		"	*0.200*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		"	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.120*		"	*0.200*		*60.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05058 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0H05058-DUP1)			**Source: 2007556-01**								
Benzo (a) pyrene	8/17/20 12:01	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.0938*		*"*	*0.208*		*45.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.146*		*"*	*0.208*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0938*		*"*	*0.208*		*45.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0G30052 - Default Prep GenChem											
Blank (0G30052-BLK1)											
Ammonia as N	7/30/20 14:45	ND	0.21	mg/L							
LCS (0G30052-BS1)											
Ammonia as N	7/30/20 14:49	5.05	0.21	mg/L	5.00		101	90-110			
LCS Dup (0G30052-BSD1)											
Ammonia as N	7/30/20 14:52	5.04	0.21	mg/L	5.00		101	90-110	0.198	10	
Matrix Spike (0G30052-MS1)			**Source: 2007557-01**								
Ammonia as N	7/30/20 15:05	4.85	0.21	mg/L	5.00	ND	95.8	90-110			
Matrix Spike Dup (0G30052-MSD1)			**Source: 2007557-01**								
Ammonia as N	7/30/20 15:07	4.83	0.21	mg/L	5.00	ND	95.4	90-110	0.413	10	
Batch 0G30059 - Default Prep GenChem											
Blank (0G30059-BLK1)											
Chloride	7/30/20 12:06	ND	0.500	mg/L							
Nitrate as N	7/30/20 12:06	ND	0.500	"							
LCS (0G30059-BS1)											
Chloride	7/30/20 9:59	3.17	0.500	mg/L	3.00		106	81.8-111			
Nitrate as N	7/30/20 9:59	2.18	0.500	"	2.26		96.3	81.1-113			
LCS Dup (0G30059-BSD1)											
Chloride	7/30/20 10:18	3.01	0.500	mg/L	3.00		100	81.8-111	5.05	20	
Nitrate as N	7/30/20 10:18	2.18	0.500	"	2.26		96.3	81.1-113	0.00	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0G30059 - Default Prep GenChem											
Duplicate (0G30059-DUP1)			**Source: 2007557-05**								
Chloride	7/30/20 15:24	3.76	0.500	mg/L		3.76			0.106	20	
Nitrate as N	7/30/20 15:24	0.179	0.500	"		0.179			0.00	20	
Matrix Spike (0G30059-MS1)			**Source: 2007557-05**								
Chloride	7/30/20 16:24	16.4	0.500	mg/L	12.0	3.76	106	75.3-124			
Nitrate as N	7/30/20 16:24	2.86	0.500	"	2.71	0.179	98.9	58.5-131			
Matrix Spike Dup (0G30059-MSD1)			**Source: 2007557-05**								
Chloride	7/30/20 16:44	15.5	0.500	mg/L	12.0	3.76	98.0	75.3-124	5.78	20	
Nitrate as N	7/30/20 16:44	2.84	0.500	"	2.71	0.179	98.1	58.5-131	0.772	20	
Batch 0G31004 - Default Prep GenChem											
Duplicate (0G31004-DUP1)			**Source: 2007556-02**								
pH	7/31/20 8:56	6.33		pH Units		6.29			0.634	5	
Batch 0H03032 - Default Prep GenChem											
LCS (0H03032-BS1)											
Specific Conductance (EC)	8/3/20 9:25	1430		uS/cm	1410		101	90-110			
Duplicate (0H03032-DUP1)			**Source: 2007556-01**								
Specific Conductance (EC)	8/3/20 9:25	505		umhos/cm @25.0 C		504			0.198	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0G31009 - EPA 200.2 DCN 1017 Rev 9											
Blank (0G31009-BLK1)											
Arsenic [HHe]	8/3/20 15:25	ND	0.00200	mg/L							
Chromium [He]	8/3/20 15:25	ND	0.00100	"							
Lead [He]	8/3/20 15:25	ND	0.00100	"							
Nickel [He]	8/3/20 15:25	ND	0.0400	"							
LCS (0G31009-BS1)											
Arsenic [HHe]	8/3/20 15:33	0.101	0.00200	mg/L	0.100		101	85-115			
Chromium [He]	8/3/20 15:33	0.098	0.00100	"	0.100		97.9	85-115			
Lead [He]	8/3/20 15:33	0.101	0.00100	"	0.100		101	85-115			
Nickel [He]	8/3/20 15:33	0.102	0.0400	"	0.100		102	85-115			
LCS Dup (0G31009-BSD1)											
Arsenic [HHe]	8/3/20 15:41	0.102	0.00200	mg/L	0.100		102	85-115	1.07	20	
Chromium [He]	8/3/20 15:41	0.099	0.00100	"	0.100		98.6	85-115	0.715	20	
Lead [He]	8/3/20 15:41	0.101	0.00100	"	0.100		101	85-115	0.626	20	
Nickel [He]	8/3/20 15:41	0.103	0.0400	"	0.100		103	85-115	1.06	20	
Matrix Spike (0G31009-MS1)			**Source: 2007555-02**								
Arsenic [HHe]	8/4/20 15:42	0.124	0.00200	mg/L	0.100	0.025	98.2	70-130			
Chromium [He]	8/4/20 15:42	0.106	0.00100	"	0.100	0.007	99.4	70-130			
Lead [He]	8/4/20 15:42	0.099	0.00100	"	0.100	ND	99.2	70-130			
Nickel [He]	8/4/20 15:42	0.114	0.0400	"	0.100	0.018	95.7	70-130			
Matrix Spike Dup (0G31009-MSD1)			**Source: 2007555-02**								
Arsenic [HHe]	8/4/20 15:50	0.124	0.00200	mg/L	0.100	0.025	98.5	70-130	0.224	20	
Chromium [He]	8/4/20 15:50	0.107	0.00100	"	0.100	0.007	101	70-130	1.08	20	
Lead [He]	8/4/20 15:50	0.100	0.00100	"	0.100	ND	99.9	70-130	0.742	20	
Nickel [He]	8/4/20 15:50	0.112	0.0400	"	0.100	0.018	94.0	70-130	1.50	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
Blank (0H03042-BLK1)											
Acenaphthene	8/5/20 15:58	ND	10.0	ug/L							
Acenaphthylene	8/5/20 15:58	ND	10.0	"							
Anthracene	8/5/20 15:58	ND	10.0	"							
Benzo (a) anthracene	8/5/20 15:58	ND	10.0	"							
Benzo (b) fluoranthene	8/5/20 15:58	ND	10.0	"							
Benzo (k) fluoranthene	8/5/20 15:58	ND	10.0	"							
Benzo (a) pyrene	8/5/20 15:58	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	8/10/20 16:01	ND	10.0	"							
Carbazole	8/5/20 15:58	ND	10.0	"							
4-Chloro-3-methylphenol	8/5/20 15:58	ND	10.0	"							
Chrysene	8/5/20 15:58	ND	10.0	"							
Dibenz (a,h) anthracene	8/5/20 15:58	ND	10.0	"							
Dibenzofuran	8/10/20 16:01	ND	10.0	"							
2,4-Dimethylphenol	8/5/20 15:58	ND	10.0	"							
2,4-Dinitrophenol	8/5/20 15:58	ND	10.0	"							
Di-n-octyl phthalate	8/10/20 16:01	ND	10.0	"							
Fluoranthene	8/5/20 15:58	ND	10.0	"							
Fluorene	8/5/20 15:58	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	8/5/20 15:58	ND	10.0	"							
2-Methylnaphthalene	8/5/20 15:58	ND	10.0	"							
2-Methylphenol	8/5/20 15:58	ND	10.0	"							
3 & 4-Methylphenol	8/5/20 15:58	ND	10.0	"							
Naphthalene	8/5/20 15:58	ND	10.0	"							
Pentachlorophenol	8/5/20 15:58	ND	10.0	"							
Phenanthrene	8/10/20 16:01	ND	10.0	"							
Pyrene	8/5/20 15:58	ND	10.0	"							
2,4,6-Trichlorophenol	8/5/20 15:58	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*85.4*		*"*	*100*		*85.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*39.9*		*"*	*50.0*		*79.8*	*14.7-104*			
Surrogate: 2-Fluorophenol		*85.3*		*"*	*100*		*85.3*	*10-100*			
Surrogate: Nitrobenzene-d5		*31.4*		*"*	*50.0*		*62.9*	*10-103*			
Surrogate: Phenol-d5		*75.9*		*"*	*100*		*75.9*	*10-105*			
Surrogate: Terphenyl-dl4		*40.0*		*"*	*50.0*		*80.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
LCS (0H03042-BS1)											
Acenaphthene	8/5/20 21:04	96.8	20.0	ug/L	100		96.8	45.5-108			
Acenaphthylene	8/5/20 21:04	61.0	20.0	"	100		61.0	46.4-114			
Anthracene	8/5/20 21:04	74.2	20.0	"	100		74.2	47-106			
Benzo (a) anthracene	8/5/20 21:04	85.3	20.0	"	100		85.3	50.8-105			
Benzo (b) fluoranthene	8/5/20 21:04	86.2	20.0	"	100		86.2	47-109			
Benzo (k) fluoranthene	8/5/20 21:04	77.5	20.0	"	100		77.5	44-111			
Benzo (a) pyrene	8/5/20 21:04	84.6	20.0	"	100		84.6	52.9-103			
Bis(2-ethylhexyl)phthalate	8/10/20 19:27	70.7	20.0	"	100		70.7	36.4-121			
Carbazole	8/5/20 21:04	53.2	20.0	"	100		53.2	25-172			
4-Chloro-3-methylphenol	8/5/20 21:04	56.2	20.0	"	100		56.2	46.4-108			
Chrysene	8/5/20 21:04	81.5	20.0	"	100		81.5	46.6-100			
Dibenz (a,h) anthracene	8/5/20 21:04	119	20.0	"	100		119	46.7-102			L1
Dibenzofuran	8/10/20 19:27	85.1	20.0	"	100		85.1	45.8-105			
2,4-Dimethylphenol	8/5/20 21:04	62.2	20.0	"	100		62.2	41.6-101			
2,4-Dinitrophenol	8/5/20 21:04	39.5	20.0	"	100		39.5	10-131			
Di-n-octyl phthalate	8/10/20 19:27	96.7	20.0	"	100		96.7	38.6-123			
Fluoranthene	8/5/20 21:04	81.1	20.0	"	100		81.1	44.9-114			
Fluorene	8/5/20 21:04	92.7	20.0	"	100		92.7	45.6-107			
Indeno (1,2,3-cd) pyrene	8/5/20 21:04	113	20.0	"	100		113	45.8-104			L1
2-Methylnaphthalene	8/5/20 21:04	62.3	20.0	"	100		62.3	44.2-104			
2-Methylphenol	8/5/20 21:04	84.1	20.0	"	100		84.1	44.5-103			
3 & 4-Methylphenol	8/5/20 21:04	167	20.0	"	200		83.5	11-149			
Naphthalene	8/5/20 21:04	63.1	20.0	"	100		63.1	45-100			
Pentachlorophenol	8/5/20 21:04	48.7	20.0	"	100		48.7	17.4-124			
Phenanthrene	8/10/20 19:27	95.7	20.0	"	100		95.7	49.2-107			
Pyrene	8/5/20 21:04	104	20.0	"	100		104	31.7-124			
2,4,6-Trichlorophenol	8/5/20 21:04	69.8	20.0	"	100		69.8	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*51.9*		*"*	*100*		*51.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*28.0*		*"*	*50.0*		*56.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*55.0*		*"*	*100*		*55.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*26.1*		*"*	*50.0*		*52.2*	*10-103*			
Surrogate: Phenol-d5		*69.2*		*"*	*100*		*69.2*	*10-105*			
Surrogate: Terphenyl-dl4		*25.7*		*"*	*50.0*		*51.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0H03042-BSD1)											
Acenaphthene	8/5/20 21:38	76.2	20.0	ug/L	100		76.2	45.5-108	23.8	40	
Acenaphthylene	8/5/20 21:38	53.9	20.0	"	100		53.9	46.4-114	12.4	40	
Anthracene	8/5/20 21:38	65.1	20.0	"	100		65.1	47-106	13.1	40	
Benzo (a) anthracene	8/5/20 21:38	72.5	20.0	"	100		72.5	50.8-105	16.2	40	
Benzo (b) fluoranthene	8/5/20 21:38	75.7	20.0	"	100		75.7	47-109	13.0	40	
Benzo (k) fluoranthene	8/5/20 21:38	70.6	20.0	"	100		70.6	44-111	9.35	40	
Benzo (a) pyrene	8/5/20 21:38	76.1	20.0	"	100		76.1	52.9-103	10.6	40	
Bis(2-ethylhexyl)phthalate	8/10/20 20:00	63.4	20.0	"	100		63.4	36.4-121	10.8	40	
Carbazole	8/5/20 21:38	52.2	20.0	"	100		52.2	25-172	1.75	40	
4-Chloro-3-methylphenol	8/5/20 21:38	50.0	20.0	"	100		50.0	46.4-108	11.8	40	
Chrysene	8/5/20 21:38	75.0	20.0	"	100		75.0	46.6-100	8.28	40	
Dibenz (a,h) anthracene	8/5/20 21:38	97.0	20.0	"	100		97.0	46.7-102	20.6	40	
Dibenzofuran	8/10/20 20:00	71.2	20.0	"	100		71.2	45.8-105	17.8	40	
2,4-Dimethylphenol	8/5/20 21:38	51.9	20.0	"	100		51.9	41.6-101	18.0	40	
2,4-Dinitrophenol	8/5/20 21:38	34.8	20.0	"	100		34.8	10-131	12.7	40	
Di-n-octyl phthalate	8/10/20 20:00	73.9	20.0	"	100		73.9	38.6-123	26.7	40	
Fluoranthene	8/5/20 21:38	79.8	20.0	"	100		79.8	44.9-114	1.64	40	
Fluorene	8/5/20 21:38	73.9	20.0	"	100		73.9	45.6-107	22.5	40	
Indeno (1,2,3-cd) pyrene	8/5/20 21:38	90.6	20.0	"	100		90.6	45.8-104	22.4	40	
2-Methylnaphthalene	8/5/20 21:38	51.1	20.0	"	100		51.1	44.2-104	19.7	40	
2-Methylphenol	8/5/20 21:38	78.6	20.0	"	100		78.6	44.5-103	6.74	40	
3 & 4-Methylphenol	8/5/20 21:38	158	20.0	"	200		79.0	11-149	5.52	40	
Naphthalene	8/5/20 21:38	55.6	20.0	"	100		55.6	45-100	12.6	40	
Pentachlorophenol	8/5/20 21:38	46.8	20.0	"	100		46.8	17.4-124	3.90	40	
Phenanthrene	8/10/20 20:00	83.8	20.0	"	100		83.8	49.2-107	13.2	40	
Pyrene	8/5/20 21:38	47.8	20.0	"	100		47.8	31.7-124	73.7	40	L3
2,4,6-Trichlorophenol	8/5/20 21:38	59.9	20.0	"	100		59.9	41.7-110	15.3	40	
Surrogate: 2,4,6-Tribromophenol		*47.3*		"	*100*		*47.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*23.9*		"	*50.0*		*47.8*	*14.7-104*			
Surrogate: 2-Fluorophenol		*52.1*		"	*100*		*52.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*23.7*		"	*50.0*		*47.5*	*10-103*			
Surrogate: Phenol-d5		*67.4*		"	*100*		*67.4*	*10-105*			
Surrogate: Terphenyl-dl4		*13.5*		"	*50.0*		*27.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0H03042-DUP1)			**Source: 2007590-02**								
Acenaphthene	8/6/20 22:00	355	105	ug/L		317			11.5	45	
Acenaphthylene	8/5/20 22:46	ND	10.5	"		ND				45	
Anthracene	8/6/20 23:42	52.7	10.5	"		36.3			37.0	45	
Benzo (a) anthracene	8/5/20 22:46	38.8	10.5	"		23.5			49.1	45	P3
Benzo (b) fluoranthene	8/5/20 22:46	22.1	10.5	"		16.5			29.3	45	
Benzo (k) fluoranthene	8/6/20 23:42	ND	10.5	"		ND				45	
Benzo (a) pyrene	8/5/20 22:46	13.5	10.5	"		13.1			3.07	45	
Bis(2-ethylhexyl)phthalate	8/6/20 23:42	ND	10.5	"		58.8			200	45	P3
Carbazole	8/5/20 22:46	21.3	10.5	"		14.2			40.3	45	
4-Chloro-3-methylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
Chrysene	8/5/20 22:46	28.1	10.5	"		24.4			13.9	45	
Dibenz (a,h) anthracene	8/5/20 22:46	ND	10.5	"		ND				45	
Dibenzofuran	8/10/20 18:18	110	105	"		110			0.516	45	
2,4-Dimethylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
2,4-Dinitrophenol	8/5/20 22:46	ND	10.5	"		ND				45	
Di-n-octyl phthalate	8/5/20 22:46	ND	10.5	"		ND				45	CC-01
Fluoranthene	8/6/20 22:00	163	105	"		94.0			53.5	45	P3
Fluorene	8/6/20 22:00	221	105	"		181			20.0	45	
Indeno (1,2,3-cd) pyrene	8/5/20 22:46	ND	10.5	"		ND				45	
2-Methylnaphthalene	8/5/20 22:46	32.6	10.5	"		41.2			23.2	45	
2-Methylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
3 & 4-Methylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
Naphthalene	8/5/20 22:46	34.3	10.5	"		33.9			1.20	45	
Pentachlorophenol	8/5/20 22:46	ND	10.5	"		ND				45	
Phenanthrene	8/6/20 22:00	290	105	"		191			41.0	45	
Pyrene	8/6/20 22:00	125	105	"		121			3.28	45	
2,4,6-Trichlorophenol	8/5/20 22:46	ND	10.5	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*64.1*		*"*	*105*		*60.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*40.5*		*"*	*52.6*		*76.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*76.5*		*"*	*105*		*72.7*	*10-100*			
Surrogate: Nitrobenzene-d5		*23.8*		*"*	*52.6*		*45.2*	*10-103*			
Surrogate: Phenol-d5		*73.8*		*"*	*105*		*70.1*	*10-105*			
Surrogate: Terphenyl-dl4		*24.9*		*"*	*52.6*		*47.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (0H03042-MS1)			**Source: 2007590-02**								
Acenaphthene	8/6/20 22:34	447	211	ug/L	105	317	124	21.2-106			M1
Acenaphthylene	8/5/20 22:12	64.1	21.1	"	105	ND	60.9	23.7-113			
Anthracene	8/7/20 0:16	165	21.1	"	105	36.3	122	32.7-100			M1
Benzo (a) anthracene	8/5/20 22:12	139	21.1	"	105	23.5	110	35.6-101			M1
Benzo (b) fluoranthene	8/5/20 22:12	116	21.1	"	105	16.5	94.7	38.4-100			
Benzo (k) fluoranthene	8/5/20 22:12	93.1	21.1	"	105	ND	88.4	29.6-107			
Benzo (a) pyrene	8/5/20 22:12	104	21.1	"	105	13.1	86.4	32.7-102			
Bis(2-ethylhexyl)phthalate	8/7/20 0:16	101	21.1	"	105	58.8	39.7	28.4-112			
Carbazole	8/5/20 22:12	88.4	21.1	"	105	14.2	70.5	24.9-167			
4-Chloro-3-methylphenol	8/5/20 22:12	58.2	21.1	"	105	ND	55.3	20.7-115			
Chrysene	8/5/20 22:12	143	21.1	"	105	24.4	113	30.8-100			M1
Dibenz (a,h) anthracene	8/5/20 22:12	117	21.1	"	105	ND	111	32.3-103			M1
Dibenzofuran	8/10/20 17:10	118	211	"	105	110	8.14	29.1-105			M1
2,4-Dimethylphenol	8/5/20 22:12	69.2	21.1	"	105	ND	65.7	15.6-114			
2,4-Dinitrophenol	8/5/20 22:12	33.8	21.1	"	105	ND	32.1	10-110			
Di-n-octyl phthalate	8/5/20 22:12	88.8	21.1	"	105	ND	84.3	19.2-118			CC-03
Fluoranthene	8/7/20 0:16	186	21.1	"	105	94.0	86.9	31.9-106			
Fluorene	8/6/20 22:34	286	211	"	105	181	101	28.1-104			
Indeno (1,2,3-cd) pyrene	8/5/20 22:12	112	21.1	"	105	ND	107	29.6-105			M1
2-Methylnaphthalene	8/5/20 22:12	120	21.1	"	105	41.2	74.8	18.5-106			
2-Methylphenol	8/5/20 22:12	79.8	21.1	"	105	ND	75.8	10-106			
3 & 4-Methylphenol	8/5/20 22:12	157	21.1	"	211	ND	74.5	10-139			
Naphthalene	8/5/20 22:12	90.7	21.1	"	105	33.9	53.9	17-100			
Pentachlorophenol	8/5/20 22:12	61.8	21.1	"	105	ND	58.7	10-119			
Phenanthrene	8/6/20 22:34	272	211	"	105	191	76.4	34.8-106			
Pyrene	8/6/20 22:34	298	211	"	105	121	169	10-127			M1
2,4,6-Trichlorophenol	8/5/20 22:12	69.9	21.1	"	105	ND	66.4	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*55.9*		"	*105*		*53.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*29.6*		"	*52.6*		*56.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*51.8*		"	*105*		*49.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*28.8*		"	*52.6*		*54.6*	*10-103*			
Surrogate: Phenol-d5		*68.8*		"	*105*		*65.4*	*10-105*			
Surrogate: Terphenyl-dl4		*21.6*		"	*52.6*		*41.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05064 - EPA 3510C DCN 4000 Rev 12											
Blank (0H05064-BLK1)											
Acenaphthene	8/11/20 9:57	ND	10.0	ug/L							
Acenaphthylene	8/11/20 9:57	ND	10.0	"							
Anthracene	8/11/20 9:57	ND	10.0	"							
Benzo (a) anthracene	8/11/20 9:57	ND	10.0	"							
Benzo (b) fluoranthene	8/11/20 9:57	ND	10.0	"							
Benzo (k) fluoranthene	8/11/20 9:57	ND	10.0	"							
Benzo (a) pyrene	8/11/20 9:57	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	8/11/20 9:57	ND	10.0	"							
Carbazole	8/11/20 9:57	ND	10.0	"							
4-Chloro-3-methylphenol	8/11/20 9:57	ND	10.0	"							CC-01
Chrysene	8/11/20 9:57	ND	10.0	"							
Dibenz (a,h) anthracene	8/11/20 9:57	ND	10.0	"							
Dibenzofuran	8/11/20 9:57	ND	10.0	"							
2,4-Dimethylphenol	8/11/20 9:57	ND	10.0	"							
2,4-Dinitrophenol	8/11/20 9:57	ND	10.0	"							
Di-n-octyl phthalate	8/11/20 9:57	ND	10.0	"							
Fluoranthene	8/11/20 9:57	ND	10.0	"							
Fluorene	8/11/20 9:57	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	8/11/20 9:57	ND	10.0	"							
2-Methylnaphthalene	8/11/20 9:57	ND	10.0	"							
2-Methylphenol	8/11/20 9:57	ND	10.0	"							
3 & 4-Methylphenol	8/11/20 9:57	ND	10.0	"							
Naphthalene	8/11/20 9:57	ND	10.0	"							
Phenanthrene	8/11/20 9:57	ND	10.0	"							
Pyrene	8/11/20 9:57	ND	10.0	"							
2,4,6-Trichlorophenol	8/11/20 9:57	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*4.78*		*"*	*20.0*		*23.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.64*		*"*	*10.0*		*26.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.97*		*"*	*20.0*		*14.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.38*		*"*	*10.0*		*23.8*	*10-103*			
Surrogate: Phenol-d5		*2.02*		*"*	*20.0*		*10.1*	*10-105*			
Surrogate: Terphenyl-dl4		*3.10*		*"*	*10.0*		*31.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05064 - EPA 3510C DCN 4000 Rev 12											
LCS (0H05064-BS1)											
Acenaphthene	8/11/20 11:11	5.35	10.0	ug/L	10.0		53.5	45.5-108			
Acenaphthylene	8/11/20 11:11	5.26	10.0	"	10.0		52.6	46.4-114			
Anthracene	8/11/20 11:11	5.68	10.0	"	10.0		56.8	47-106			
Benzo (a) anthracene	8/11/20 11:11	5.82	10.0	"	10.0		58.2	50.8-105			
Benzo (b) fluoranthene	8/11/20 11:11	5.74	10.0	"	10.0		57.4	47-109			
Benzo (k) fluoranthene	8/11/20 11:11	5.68	10.0	"	10.0		56.8	44-111			
Benzo (a) pyrene	8/11/20 11:11	5.48	10.0	"	10.0		54.8	52.9-103			
Bis(2-ethylhexyl)phthalate	8/11/20 11:11	6.37	10.0	"	10.0		63.7	36.4-121			
Carbazole	8/11/20 11:11	6.10	10.0	"	10.0		61.0	25-172			
4-Chloro-3-methylphenol	8/11/20 11:11	6.67	10.0	"	10.0		66.7	46.4-108			CC-03
Chrysene	8/11/20 11:11	5.89	10.0	"	10.0		58.9	46.6-100			
Dibenz (a,h) anthracene	8/11/20 11:11	5.10	10.0	"	10.0		51.0	46.7-102			
Dibenzofuran	8/11/20 11:11	5.48	10.0	"	10.0		54.8	45.8-105			
2,4-Dimethylphenol	8/11/20 11:11	5.89	10.0	"	10.0		58.9	41.6-101			
2,4-Dinitrophenol	8/11/20 11:11	6.01	10.0	"	10.0		60.1	10-131			
Di-n-octyl phthalate	8/11/20 11:11	5.84	10.0	"	10.0		58.4	38.6-123			
Fluoranthene	8/11/20 11:11	5.75	10.0	"	10.0		57.5	44.9-114			
Fluorene	8/11/20 11:11	5.76	10.0	"	10.0		57.6	45.6-107			
Indeno (1,2,3-cd) pyrene	8/11/20 11:11	5.30	10.0	"	10.0		53.0	45.8-104			
2-Methylnaphthalene	8/11/20 11:11	5.42	10.0	"	10.0		54.2	44.2-104			
2-Methylphenol	8/11/20 11:11	4.66	10.0	"	10.0		46.6	44.5-103			
3 & 4-Methylphenol	8/11/20 11:11	8.68	10.0	"	20.0		43.4	11-149			
Naphthalene	8/11/20 11:11	5.14	10.0	"	10.0		51.4	45-100			
Phenanthrene	8/11/20 11:11	5.90	10.0	"	10.0		59.0	49.2-107			
Pyrene	8/11/20 11:11	6.10	10.0	"	10.0		61.0	31.7-124			
2,4,6-Trichlorophenol	8/11/20 11:11	6.54	10.0	"	10.0		65.4	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*5.53*		*"*	*20.0*		*27.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.50*		*"*	*10.0*		*25.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.81*		*"*	*20.0*		*14.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.87*		*"*	*10.0*		*28.7*	*10-103*			
Surrogate: Phenol-d5		*2.28*		*"*	*20.0*		*11.4*	*10-105*			
Surrogate: Terphenyl-dl4		*2.72*		*"*	*10.0*		*27.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05064 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0H05064-BSD1)											
Acenaphthene	8/11/20 11:49	5.54	10.0	ug/L	10.0		55.4	45.5-108	3.49	40	
Acenaphthylene	8/11/20 11:49	5.29	10.0	"	10.0		52.9	46.4-114	0.569	40	
Anthracene	8/11/20 11:49	5.92	10.0	"	10.0		59.2	47-106	4.14	40	
Benzo (a) anthracene	8/11/20 11:49	5.58	10.0	"	10.0		55.8	50.8-105	4.21	40	
Benzo (b) fluoranthene	8/11/20 11:49	5.11	10.0	"	10.0		51.1	47-109	11.6	40	
Benzo (k) fluoranthene	8/11/20 11:49	5.13	10.0	"	10.0		51.3	44-111	10.2	40	
Benzo (a) pyrene	8/11/20 11:49	6.18	10.0	"	10.0		61.8	52.9-103	12.0	40	
Bis(2-ethylhexyl)phthalate	8/11/20 11:49	4.74	10.0	"	10.0		47.4	36.4-121	29.3	40	
Carbazole	8/11/20 11:49	6.37	10.0	"	10.0		63.7	25-172	4.33	40	
4-Chloro-3-methylphenol	8/11/20 11:49	6.54	10.0	"	10.0		65.4	46.4-108	1.97	40	CC-03
Chrysene	8/11/20 11:49	5.49	10.0	"	10.0		54.9	46.6-100	7.03	40	
Dibenz (a,h) anthracene	8/11/20 11:49	5.79	10.0	"	10.0		57.9	46.7-102	12.7	40	
Dibenzofuran	8/11/20 11:49	5.51	10.0	"	10.0		55.1	45.8-105	0.546	40	
2,4-Dimethylphenol	8/11/20 11:49	5.89	10.0	"	10.0		58.9	41.6-101	0.00	40	
2,4-Dinitrophenol	8/11/20 11:49	5.77	10.0	"	10.0		57.7	10-131	4.07	40	
Di-n-octyl phthalate	8/11/20 11:49	4.60	10.0	"	10.0		46.0	38.6-123	23.8	40	
Fluoranthene	8/11/20 11:49	5.63	10.0	"	10.0		56.3	44.9-114	2.11	40	
Fluorene	8/11/20 11:49	5.73	10.0	"	10.0		57.3	45.6-107	0.522	40	
Indeno (1,2,3-cd) pyrene	8/11/20 11:49	5.59	10.0	"	10.0		55.9	45.8-104	5.33	40	
2-Methylnaphthalene	8/11/20 11:49	5.40	10.0	"	10.0		54.0	44.2-104	0.370	40	
2-Methylphenol	8/11/20 11:49	4.63	10.0	"	10.0		46.3	44.5-103	0.646	40	
3 & 4-Methylphenol	8/11/20 11:49	8.34	10.0	"	20.0		41.7	11-149	4.00	40	
Naphthalene	8/11/20 11:49	5.19	10.0	"	10.0		51.9	45-100	0.968	40	
Phenanthrene	8/11/20 11:49	6.09	10.0	"	10.0		60.9	49.2-107	3.17	40	
Pyrene	8/11/20 11:49	5.51	10.0	"	10.0		55.1	31.7-124	10.2	40	
2,4,6-Trichlorophenol	8/11/20 11:49	6.43	10.0	"	10.0		64.3	41.7-110	1.70	40	
Surrogate: 2,4,6-Tribromophenol		*5.29*		"	*20.0*		*26.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.39*		"	*10.0*		*23.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.71*		"	*20.0*		*13.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.72*		"	*10.0*		*27.2*	*10-103*			
Surrogate: Phenol-d5		*2.15*		"	*20.0*		*10.8*	*10-105*			
Surrogate: Terphenyl-dl4		*2.30*		"	*10.0*		*23.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05064 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0H05064-DUP1)			**Source: 2007556-02**								
Acenaphthene	8/20/20 13:21	168	154	ug/L		1340			155	45	P3
Acenaphthylene	8/11/20 14:58	ND	10.3	"		14.2			200	45	P3
Anthracene	8/11/20 14:58	14.1	10.3	"		823			193	45	P3
Benzo (a) anthracene	8/11/20 14:58	5.70	5.13	"		566			196	45	P3
Benzo (b) fluoranthene	8/11/20 14:58	3.07	2.05	"		160			192	45	P3
Benzo (k) fluoranthene	8/11/20 14:58	1.19	10.3	"		56.9			192	45	P3
Benzo (a) pyrene	8/11/20 14:58	2.10	2.05	"		108			192	45	P3
Bis(2-ethylhexyl)phthalate	8/11/20 14:58	ND	10.3	"		ND				45	
Carbazole	8/17/20 23:53	96.6	51.3	"		126			26.3	45	
4-Chloro-3-methylphenol	8/11/20 14:58	ND	10.3	"		ND				45	CC-01
Chrysene	8/11/20 14:58	4.87	4.10	"		469			196	45	P3
Dibenz (a,h) anthracene	8/11/20 14:58	ND	10.3	"		ND				45	
Dibenzofuran	8/19/20 19:00	122	103	"		894			152	45	P3
2,4-Dimethylphenol	8/11/20 14:58	ND	10.3	"		ND				45	
2,4-Dinitrophenol	8/11/20 14:58	ND	10.3	"		ND				45	
Di-n-octyl phthalate	8/11/20 14:58	ND	10.3	"		ND				45	
Fluoranthene	8/17/20 23:53	39.3	27.7	"		2820			195	45	P3
Fluorene	8/19/20 19:00	128	103	"		1290			164	45	P3
Indeno (1,2,3-cd) pyrene	8/11/20 14:58	ND	10.3	"		24.6			200	45	P3
2-Methylnaphthalene	8/17/20 23:53	56.2	51.3	"		574			164	45	P3
2-Methylphenol	8/11/20 14:58	ND	10.3	"		ND				45	
3 & 4-Methylphenol	8/11/20 14:58	ND	10.3	"		ND				45	
Naphthalene	8/20/20 13:21	438	410	"		951			73.8	45	P3
Phenanthrene	8/19/20 19:00	166	103	"		4500			186	45	P3
Pyrene	8/17/20 23:53	13.9	10.3	"		1240			196	45	P3
2,4,6-Trichlorophenol	8/11/20 14:58	ND	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*8.52*		*"*	*20.5*		*41.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.87*		*"*	*10.3*		*28.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.23*		*"*	*20.5*		*15.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.32*		*"*	*10.3*		*22.6*	*10-103*			
Surrogate: Phenol-d5		*2.09*		*"*	*20.5*		*10.2*	*10-105*			
Surrogate: Terphenyl-dl4		*3.31*		*"*	*10.3*		*32.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H05064 - EPA 3510C DCN 4000 Rev 12											
Blank (0H05064-BLK1)											
Pentachlorophenol	8/11/20 9:57	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*4.78*		*"*	*20.0*		*23.9*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.97*		*"*	*20.0*		*14.9*	*12.7-100*			
Surrogate: Phenol-d5		*2.02*		*"*	*20.0*		*10.1*	*16.1-100*			*SR05*
LCS (0H05064-BS1)											
Pentachlorophenol	8/11/20 11:11	5.90	1.00	ug/L	10.0		59.0	10-144			
Surrogate: 2,4,6-Tribromophenol		*5.53*		*"*	*20.0*		*27.7*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.81*		*"*	*20.0*		*14.1*	*12.7-100*			
Surrogate: Phenol-d5		*2.28*		*"*	*20.0*		*11.4*	*16.1-100*			*SR05*
LCS Dup (0H05064-BSD1)											
Pentachlorophenol	8/11/20 11:49	5.69	1.00	ug/L	10.0		56.9	10-144	3.62	40	
Surrogate: 2,4,6-Tribromophenol		*5.29*		*"*	*20.0*		*26.5*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.71*		*"*	*20.0*		*13.6*	*12.7-100*			
Surrogate: Phenol-d5		*2.15*		*"*	*20.0*		*10.8*	*16.1-100*			*SR05*
Duplicate (0H05064-DUP1)			**Source: 2007556-02**								
Pentachlorophenol	8/11/20 14:58	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*8.52*		*"*	*20.5*		*41.6*	*16.2-100*			
Surrogate: 2-Fluorophenol		*3.23*		*"*	*20.5*		*15.8*	*12.7-100*			
Surrogate: Phenol-d5		*2.09*		*"*	*20.5*		*10.2*	*16.1-100*			*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0G30049 - EPA 5030B											
Blank (0G30049-BLK1)											
Benzene	7/30/20 10:16	ND	5.00	ug/L							
Ethylbenzene	7/30/20 10:16	ND	5.00	"							
Surrogate: Dibromofluoromethane		*53.9*		"	*50.0*		*108*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*44.3*		"	*50.0*		*88.6*	*70-130*			
Surrogate: Toluene-d8		*45.6*		"	*50.0*		*91.3*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.9*		"	*50.0*		*99.8*	*70-130*			
LCS (0G30049-BS1)											
Benzene	7/30/20 14:03	24.9	5.00	ug/L	20.0		125	70.8-137			
Ethylbenzene	7/30/20 14:03	22.9	5.00	"	20.0		114	73.6-139			
Surrogate: Dibromofluoromethane		*51.5*		"	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.1*		"	*50.0*		*94.3*	*70-130*			
Surrogate: Toluene-d8		*46.4*		"	*50.0*		*92.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.5*		"	*50.0*		*98.9*	*70-130*			
LCS Dup (0G30049-BSD1)											
Benzene	7/30/20 14:29	24.9	5.00	ug/L	20.0		124	70.8-137	0.201	30	
Ethylbenzene	7/30/20 14:29	23.1	5.00	"	20.0		116	73.6-139	1.13	30	
Surrogate: Dibromofluoromethane		*52.5*		"	*50.0*		*105*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*44.1*		"	*50.0*		*88.3*	*70-130*			
Surrogate: Toluene-d8		*46.5*		"	*50.0*		*92.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.9*		"	*50.0*		*102*	*70-130*			
Duplicate (0G30049-DUP1)				**Source: 2007541-01**							
Benzene	7/30/20 16:12	ND	5.00	ug/L		ND				35	
Ethylbenzene	7/30/20 16:12	ND	5.00	"		ND				35	
Surrogate: Dibromofluoromethane		*53.4*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.7*		"	*50.0*		*95.5*	*70-130*			
Surrogate: Toluene-d8		*46.3*		"	*50.0*		*92.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.3*		"	*50.0*		*101*	*70-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0G30049 - EPA 5030B											
Matrix Spike (0G30049-MS1)			**Source: 2007541-01**								
Benzene	7/30/20 16:39	23.9	5.00	ug/L	20.0	ND	119	76.8-144			
Ethylbenzene	7/30/20 16:39	22.0	5.00	"	20.0	ND	110	72-147			
Surrogate: Dibromofluoromethane		*51.7*		*"*	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.4*		*"*	*50.0*		*94.9*	*70-130*			
Surrogate: Toluene-d8		*46.0*		*"*	*50.0*		*91.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.0*		*"*	*50.0*		*99.9*	*70-130*			
Matrix Spike Dup (0G30049-MSD1)			**Source: 2007541-01**								
Benzene	7/30/20 17:05	22.9	5.00	ug/L	20.0	ND	115	76.8-144	4.10	35	
Ethylbenzene	7/30/20 17:05	21.4	5.00	"	20.0	ND	107	72-147	3.14	35	
Surrogate: Dibromofluoromethane		*52.3*		*"*	*50.0*		*105*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.7*		*"*	*50.0*		*95.3*	*70-130*			
Surrogate: Toluene-d8		*46.0*		*"*	*50.0*		*92.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.7*		*"*	*50.0*		*101*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/21/2020 13:39

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2021
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2021
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2020
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2020
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2021
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2021
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2021
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/04/2020
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2021
C12			
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2021
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2021
Not Certi	Not certified by an accrediting body	No certification held	06/30/2020

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	08/21/2020 13:39

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Gayle M. Sparling	GMS
Kristy L. Pierce	KLP
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2007556

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
×Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 3RD QTR 2020
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE NITRATE AMMONIA	METALS	BNA	VOA
Preservative:									
RW-1	7-29-20/10:40	W	9	G	X	X	X	X	X	X
RW-2	7-29-20/10:50	W	9	G	X	X	X	X	X	X
TBV#6494	7-29-20/10:40	W	2							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 4 Cooler # client **Receipt Temp Corrected(°C)** 1.6 °C
Date & Time _____ By: _____ Sample ____ Blank X Cooler ____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		FMS	7-29-20	15:58
Received by	Sarah Tomek	Sarah Tomek	MM	7/29/2020	1558
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

August 12, 2020

Ethan Allen

Work Order # : 2007590

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 07/30/2020 15:51. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-3A	2007590-01	Water	07/30/2020 10:30	*Jeff Gonsoulin*	07/30/2020 15:51
Mobile/T-2	2007590-02	Water	07/30/2020 11:00	*Jeff Gonsoulin*	07/30/2020 15:51
Mobile/RC-2A	2007590-03	Water	07/30/2020 13:45	*Jeff Gonsoulin*	07/30/2020 15:51
Trip Blank TBV#6493	2007590-04	Water	07/30/2020 10:30	*Micro Methods*	07/30/2020 15:51

Sample Receipt Conditions

Date/Time Received: 7/30/2020 3:51:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 7/30/2020 4:01:00PM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 2.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	08/12/2020 10:05

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found. All pH samples received out of hold time.- SET

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 08/12/2020 10:05

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

Di-n-octyl phthalate

0H03042-DUP1, 2007590-01[Mobile/RC-3A], 2007590-02[Mobile/T-2], 2007590-03[Mobile/RC-2A]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

Di-n-octyl phthalate

0H03042-MS1

L1 LCS and/or LCSD Recovery Limit exceeded.

Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

0H03042-BS1

L3 LCS/LCSD Precision Limit exceeded.

Pyrene

0H03042-BSD1

M1 MS/MSD Recovery limit exceeded.

Acenaphthene, Anthracene, Benzo (a) anthracene, Chrysene, Dibenz (a,h) anthracene, Dibenzofuran, Indeno (1,2,3-cd) pyrene, Pyrene

0H03042-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Benzo (a) anthracene, Bis(2-ethylhexyl)phthalate, Fluoranthene

0H03042-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

0G31024-DUP1, 2007590-01[Mobile/RC-3A], 2007590-02[Mobile/T-2], 2007590-03[Mobile/RC-2A]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/RC-3A

2007590-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**63.3**	2.00	mg/L	4.0	0G30059	DLW	07/30/2020 18:23	07/30/2020 18:23	SM 4110B 2011	
Nitrate as N	ND	2.00	"	"	"	DLW	"	"	"	
Ammonia as N	**0.69**	0.21	"	1.0	0G31014	AKL	07/31/2020 11:24	07/31/2020 15:20	Lachat 10-107-06-1-I	
pH	**6.07**		pH Units	"	0G31024	GMS	07/31/2020 12:20	07/31/2020 12:03	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**488**		umhos/cm @25.0 C	"	0H03032	GMS	08/03/2020 09:10	08/03/2020 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H03030	CLV	08/03/2020 08:50	08/04/2020 02:43	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00106**	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	ND	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**51.8**	10.1	ug/L	1.0	0H03042	CRLV	08/03/2020 11:30	08/06/2020 18:03	EPA 8270D	
Acenaphthylene	ND	10.1	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.1	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.1	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.1	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.1	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Fluorene	**28.9**	10.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.1	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.1	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.1	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/RC-3A

2007590-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
2,4,6-Trichlorophenol	ND	10.1	ug/L	1.0	0H03042	CRLV	08/03/2020 11:30	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	69.0	*68.3 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	28.5	*56.5 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	45.4	*45.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	24.0	*47.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	34.5	*34.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	44.8	*88.6 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H03040	SAD	07/31/2020 08:00	08/03/2020 14:42	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.9	*112 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	47.5	*94.9 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	44.9	*89.7 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	51.6	*103 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/T-2

2007590-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**56.1**	1.00	mg/L	2.0	0G30059	DLW	07/30/2020 19:03	07/30/2020 19:03	SM 4110B 2011	
Nitrate as N	**4.24**	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**5.24**	0.21	"	1.0	0G31014	AKL	07/31/2020 11:24	07/31/2020 15:21	Lachat 10-107-06-1-I	
pH	**6.75**		pH Units	"	0G31024	GMS	07/31/2020 12:20	07/31/2020 12:03	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**930**		umhos/cm @25.0 C	"	0H03032	GMS	08/03/2020 09:10	08/03/2020 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H03030	CLV	08/03/2020 08:50	08/04/2020 21:58	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00185**	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	ND	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/T-2

2007590-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**317**	103	ug/L	10.0	0H03042	CRLV	08/03/2020 11:30	08/06/2020 21:26	EPA 8270D	
Acenaphthylene	ND	10.3	"	1.0	"	CRLV	"	08/06/2020 23:08	"	
Anthracene	**36.3**	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**23.5**	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**16.5**	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**13.1**	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**58.8**	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**14.2**	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	**24.4**	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**110**	103	"	10.0	"	CRLV	"	08/10/2020 16:36	"	
2,4-Dimethylphenol	ND	10.3	"	1.0	"	CRLV	"	08/06/2020 23:08	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**94.0**	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**181**	103	"	10.0	"	CRLV	"	08/06/2020 21:26	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	1.0	"	CRLV	"	08/06/2020 23:08	"	
2-Methylnaphthalene	**41.2**	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**33.9**	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	**191**	103	"	10.0	"	CRLV	"	08/06/2020 21:26	"	
Pyrene	**121**	103	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	1.0	"	CRLV	"	08/06/2020 23:08	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	63.0	*61.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	35.1	*68.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	66.1	*64.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	26.3	*51.3 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	61.6	*60.1 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	21.3	*41.6 %*	*10-110*	"	CRLV	"	*08/06/2020 21:26*	"	

Volatile Organic Compounds by EPA Method 8260D									
Benzene	ND	5.00	ug/L	1.0	0H03040	SAD	07/31/2020 08:00	07/31/2020 14:56	EPA 8260D
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/T-2

2007590-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.7	*109 %*	*70-130*	*0H03040*	SAD	*07/31/2020 08:00*	"	"	
1,2-Dichloroethane-d4	48.8	*97.6 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	44.6	*89.2 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	51.4	*103 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/RC-2A

2007590-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**64.5**	1.00	mg/L	2.0	0G30059	DLW	07/30/2020 19:43	07/30/2020 19:43	SM 4110B 2011	
Nitrate as N	ND	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**0.65**	0.21	"	1.0	0G31014	AKL	07/31/2020 11:24	07/31/2020 15:22	Lachat 10-107-06-1-I	
pH	**6.12**		pH Units	"	0G31024	GMS	07/31/2020 12:20	07/31/2020 12:03	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**351**		umhos/cm @25.0 C	"	0H03032	GMS	08/03/2020 09:10	08/03/2020 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H03030	CLV	08/03/2020 08:50	08/04/2020 03:13	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	ND	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/RC-2A

2007590-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**596**	105	ug/L	10.0	0H03042	CRLV	08/03/2020 11:30	08/06/2020 18:36	EPA 8270D	
Acenaphthylene	ND	10.5	"	1.0	"	CRLV	"	08/05/2020 18:14	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	08/06/2020 19:10	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	08/05/2020 18:14	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**13.6**	10.5	"	"	"	CRLV	"	08/06/2020 19:10	"	
Carbazole	**319**	105	"	10.0	"	CRLV	"	08/06/2020 18:36	"	
4-Chloro-3-methylphenol	ND	10.5	"	1.0	"	CRLV	"	08/05/2020 18:14	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	**169**	105	"	10.0	"	CRLV	"	08/10/2020 17:45	"	
2,4-Dimethylphenol	ND	10.5	"	1.0	"	CRLV	"	08/05/2020 18:14	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	**210**	105	"	10.0	"	CRLV	"	08/06/2020 18:36	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	1.0	"	CRLV	"	08/05/2020 18:14	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	**81.9**	10.5	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	**117**	105	"	10.0	"	CRLV	"	08/06/2020 18:36	"	
Pyrene	ND	10.5	"	1.0	"	CRLV	"	08/05/2020 18:14	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	73.6	*69.9 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	39.6	*75.3 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	73.2	*69.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	22.5	*42.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	75.0	*71.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	51.0	*96.9 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Mobile/RC-2A

2007590-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H03040	SAD	07/31/2020 08:00	07/31/2020 15:23	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.6	*111 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	49.5	*99.1 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	45.9	*91.7 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	51.7	*103 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Trip Blank TBV#6493

2007590-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H03040	SAD	07/31/2020 08:00	07/31/2020 15:49	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.4	*111 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.0	*100 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	45.7	*91.3 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	51.5	*103 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0G30059 - Default Prep GenChem											
Blank (0G30059-BLK1)											
Chloride	7/30/20 12:06	ND	0.500	mg/L							
Nitrate as N	7/30/20 12:06	ND	0.500	"							
LCS (0G30059-BS1)											
Chloride	7/30/20 9:59	3.17	0.500	mg/L	3.00		106	81.8-111			
Nitrate as N	7/30/20 9:59	2.18	0.500	"	2.26		96.3	81.1-113			
LCS Dup (0G30059-BSD1)											
Chloride	7/30/20 10:18	3.01	0.500	mg/L	3.00		100	81.8-111	5.05	20	
Nitrate as N	7/30/20 10:18	2.18	0.500	"	2.26		96.3	81.1-113	0.00	20	
Duplicate (0G30059-DUP1)			**Source: 2007557-05**								
Chloride	7/30/20 15:24	3.76	0.500	mg/L		3.76			0.106	20	
Nitrate as N	7/30/20 15:24	0.179	0.500	"		0.179			0.00	20	
Matrix Spike (0G30059-MS1)			**Source: 2007557-05**								
Chloride	7/30/20 16:24	16.4	0.500	mg/L	12.0	3.76	106	75.3-124			
Nitrate as N	7/30/20 16:24	2.86	0.500	"	2.71	0.179	98.9	58.5-131			
Matrix Spike Dup (0G30059-MSD1)			**Source: 2007557-05**								
Chloride	7/30/20 16:44	15.5	0.500	mg/L	12.0	3.76	98.0	75.3-124	5.78	20	
Nitrate as N	7/30/20 16:44	2.84	0.500	"	2.71	0.179	98.1	58.5-131	0.772	20	
Batch 0G31014 - Default Prep GenChem											
Blank (0G31014-BLK1)											
Ammonia as N	7/31/20 14:54	ND	0.21	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0G31014 - Default Prep GenChem											
LCS (0G31014-BS1)											
Ammonia as N	7/31/20 14:57	5.09	0.21	mg/L	5.00		102	90-110			
LCS Dup (0G31014-BSD1)											
Ammonia as N	7/31/20 15:01	4.97	0.21	mg/L	5.00		99.4	90-110	2.39	10	
Matrix Spike (0G31014-MS1)			**Source: 2007592-02**								
Ammonia as N	7/31/20 15:42	4.86	0.21	mg/L	5.00	ND	97.2	90-110			
Matrix Spike Dup (0G31014-MSD1)			**Source: 2007592-02**								
Ammonia as N	7/31/20 15:36	4.87	0.21	mg/L	5.00	ND	97.4	90-110	0.206	10	
Batch 0G31024 - Default Prep GenChem											
Duplicate (0G31024-DUP1)			**Source: 2007590-03**								
pH	7/31/20 12:35	6.11		pH Units		6.12			0.164	5	HT-02
Batch 0H03032 - Default Prep GenChem											
LCS (0H03032-BS1)											
Specific Conductance (EC)	8/3/20 9:25	1430		uS/cm	1410		101	90-110			
Duplicate (0H03032-DUP1)			**Source: 2007556-01**								
Specific Conductance (EC)	8/3/20 9:25	505		umhos/cm @25.0 C		504			0.198	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03030 - EPA 200.2 DCN 1017 Rev 9											
Blank (0H03030-BLK1)											
Arsenic [HHe]	8/4/20 0:24	ND	0.00200	mg/L							
Chromium [He]	8/4/20 0:24	ND	0.00100	"							
Lead [He]	8/4/20 0:24	ND	0.00100	"							
Nickel [He]	8/4/20 0:24	ND	0.0400	"							
LCS (0H03030-BS1)											
Arsenic [HHe]	8/4/20 0:32	0.097	0.00200	mg/L	0.100		96.6	85-115			
Chromium [He]	8/4/20 0:32	0.094	0.00100	"	0.100		94.1	85-115			
Lead [He]	8/4/20 0:32	0.095	0.00100	"	0.100		94.7	85-115			
Nickel [He]	8/4/20 0:32	0.096	0.0400	"	0.100		95.5	85-115			
LCS Dup (0H03030-BSD1)											
Arsenic [HHe]	8/4/20 0:40	0.094	0.00200	mg/L	0.100		94.0	85-115	2.79	20	
Chromium [He]	8/4/20 0:40	0.091	0.00100	"	0.100		90.8	85-115	3.49	20	
Lead [He]	8/4/20 0:40	0.091	0.00100	"	0.100		91.4	85-115	3.54	20	
Nickel [He]	8/4/20 0:40	0.092	0.0400	"	0.100		92.0	85-115	3.80	20	
Matrix Spike (0H03030-MS1)			**Source: 2007590-01**								
Arsenic [HHe]	8/4/20 2:50	0.093	0.00200	mg/L	0.100	0.0003	93.2	70-130			
Chromium [He]	8/4/20 2:50	0.089	0.00100	"	0.100	0.001	87.8	70-130			
Lead [He]	8/4/20 2:50	0.092	0.00100	"	0.100	0.0001	91.7	70-130			
Nickel [He]	8/4/20 2:50	0.089	0.0400	"	0.100	0.002	87.6	70-130			
Matrix Spike Dup (0H03030-MSD1)			**Source: 2007590-01**								
Arsenic [HHe]	8/4/20 2:58	0.095	0.00200	mg/L	0.100	0.0003	94.7	70-130	1.66	20	
Chromium [He]	8/4/20 2:58	0.096	0.00100	"	0.100	0.001	95.3	70-130	8.14	20	
Lead [He]	8/4/20 2:58	0.100	0.00100	"	0.100	0.0001	100	70-130	8.91	20	
Nickel [He]	8/4/20 2:58	0.093	0.0400	"	0.100	0.002	91.7	70-130	4.57	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
Blank (0H03042-BLK1)											
Acenaphthene	8/5/20 15:58	ND	10.0	ug/L							
Acenaphthylene	8/5/20 15:58	ND	10.0	"							
Anthracene	8/5/20 15:58	ND	10.0	"							
Benzo (a) anthracene	8/5/20 15:58	ND	10.0	"							
Benzo (b) fluoranthene	8/5/20 15:58	ND	10.0	"							
Benzo (k) fluoranthene	8/5/20 15:58	ND	10.0	"							
Benzo (a) pyrene	8/5/20 15:58	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	8/10/20 16:01	ND	10.0	"							
Carbazole	8/5/20 15:58	ND	10.0	"							
4-Chloro-3-methylphenol	8/5/20 15:58	ND	10.0	"							
Chrysene	8/5/20 15:58	ND	10.0	"							
Dibenz (a,h) anthracene	8/5/20 15:58	ND	10.0	"							
Dibenzofuran	8/10/20 16:01	ND	10.0	"							
2,4-Dimethylphenol	8/5/20 15:58	ND	10.0	"							
2,4-Dinitrophenol	8/5/20 15:58	ND	10.0	"							
Di-n-octyl phthalate	8/10/20 16:01	ND	10.0	"							
Fluoranthene	8/5/20 15:58	ND	10.0	"							
Fluorene	8/5/20 15:58	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	8/5/20 15:58	ND	10.0	"							
2-Methylnaphthalene	8/5/20 15:58	ND	10.0	"							
2-Methylphenol	8/5/20 15:58	ND	10.0	"							
3 & 4-Methylphenol	8/5/20 15:58	ND	10.0	"							
Naphthalene	8/5/20 15:58	ND	10.0	"							
Pentachlorophenol	8/5/20 15:58	ND	10.0	"							
Phenanthrene	8/10/20 16:01	ND	10.0	"							
Pyrene	8/5/20 15:58	ND	10.0	"							
2,4,6-Trichlorophenol	8/5/20 15:58	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*85.4*		*"*	*100*		*85.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*39.9*		*"*	*50.0*		*79.8*	*14.7-104*			
Surrogate: 2-Fluorophenol		*85.3*		*"*	*100*		*85.3*	*10-100*			
Surrogate: Nitrobenzene-d5		*31.4*		*"*	*50.0*		*62.9*	*10-103*			
Surrogate: Phenol-d5		*75.9*		*"*	*100*		*75.9*	*10-105*			
Surrogate: Terphenyl-dl4		*40.0*		*"*	*50.0*		*80.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
LCS (0H03042-BS1)											
Acenaphthene	8/5/20 21:04	96.8	20.0	ug/L	100		96.8	45.5-108			
Acenaphthylene	8/5/20 21:04	61.0	20.0	"	100		61.0	46.4-114			
Anthracene	8/5/20 21:04	74.2	20.0	"	100		74.2	47-106			
Benzo (a) anthracene	8/5/20 21:04	85.3	20.0	"	100		85.3	50.8-105			
Benzo (b) fluoranthene	8/5/20 21:04	86.2	20.0	"	100		86.2	47-109			
Benzo (k) fluoranthene	8/5/20 21:04	77.5	20.0	"	100		77.5	44-111			
Benzo (a) pyrene	8/5/20 21:04	84.6	20.0	"	100		84.6	52.9-103			
Bis(2-ethylhexyl)phthalate	8/10/20 19:27	70.7	20.0	"	100		70.7	36.4-121			
Carbazole	8/5/20 21:04	53.2	20.0	"	100		53.2	25-172			
4-Chloro-3-methylphenol	8/5/20 21:04	56.2	20.0	"	100		56.2	46.4-108			
Chrysene	8/5/20 21:04	81.5	20.0	"	100		81.5	46.6-100			
Dibenz (a,h) anthracene	8/5/20 21:04	119	20.0	"	100		119	46.7-102			L1
Dibenzofuran	8/10/20 19:27	85.1	20.0	"	100		85.1	45.8-105			
2,4-Dimethylphenol	8/5/20 21:04	62.2	20.0	"	100		62.2	41.6-101			
2,4-Dinitrophenol	8/5/20 21:04	39.5	20.0	"	100		39.5	10-131			
Di-n-octyl phthalate	8/10/20 19:27	96.7	20.0	"	100		96.7	38.6-123			
Fluoranthene	8/5/20 21:04	81.1	20.0	"	100		81.1	44.9-114			
Fluorene	8/5/20 21:04	92.7	20.0	"	100		92.7	45.6-107			
Indeno (1,2,3-cd) pyrene	8/5/20 21:04	113	20.0	"	100		113	45.8-104			L1
2-Methylnaphthalene	8/5/20 21:04	62.3	20.0	"	100		62.3	44.2-104			
2-Methylphenol	8/5/20 21:04	84.1	20.0	"	100		84.1	44.5-103			
3 & 4-Methylphenol	8/5/20 21:04	167	20.0	"	200		83.5	11-149			
Naphthalene	8/5/20 21:04	63.1	20.0	"	100		63.1	45-100			
Pentachlorophenol	8/5/20 21:04	48.7	20.0	"	100		48.7	17.4-124			
Phenanthrene	8/10/20 19:27	95.7	20.0	"	100		95.7	49.2-107			
Pyrene	8/5/20 21:04	104	20.0	"	100		104	31.7-124			
2,4,6-Trichlorophenol	8/5/20 21:04	69.8	20.0	"	100		69.8	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*51.9*		"	*100*		*51.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*28.0*		"	*50.0*		*56.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*55.0*		"	*100*		*55.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*26.1*		"	*50.0*		*52.2*	*10-103*			
Surrogate: Phenol-d5		*69.2*		"	*100*		*69.2*	*10-105*			
Surrogate: Terphenyl-dl4		*25.7*		"	*50.0*		*51.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0H03042-BSD1)											
Acenaphthene	8/5/20 21:38	76.2	20.0	ug/L	100		76.2	45.5-108	23.8	40	
Acenaphthylene	8/5/20 21:38	53.9	20.0	"	100		53.9	46.4-114	12.4	40	
Anthracene	8/5/20 21:38	65.1	20.0	"	100		65.1	47-106	13.1	40	
Benzo (a) anthracene	8/5/20 21:38	72.5	20.0	"	100		72.5	50.8-105	16.2	40	
Benzo (b) fluoranthene	8/5/20 21:38	75.7	20.0	"	100		75.7	47-109	13.0	40	
Benzo (k) fluoranthene	8/5/20 21:38	70.6	20.0	"	100		70.6	44-111	9.35	40	
Benzo (a) pyrene	8/5/20 21:38	76.1	20.0	"	100		76.1	52.9-103	10.6	40	
Bis(2-ethylhexyl)phthalate	8/10/20 20:00	63.4	20.0	"	100		63.4	36.4-121	10.8	40	
Carbazole	8/5/20 21:38	52.2	20.0	"	100		52.2	25-172	1.75	40	
4-Chloro-3-methylphenol	8/5/20 21:38	50.0	20.0	"	100		50.0	46.4-108	11.8	40	
Chrysene	8/5/20 21:38	75.0	20.0	"	100		75.0	46.6-100	8.28	40	
Dibenz (a,h) anthracene	8/5/20 21:38	97.0	20.0	"	100		97.0	46.7-102	20.6	40	
Dibenzofuran	8/10/20 20:00	71.2	20.0	"	100		71.2	45.8-105	17.8	40	
2,4-Dimethylphenol	8/5/20 21:38	51.9	20.0	"	100		51.9	41.6-101	18.0	40	
2,4-Dinitrophenol	8/5/20 21:38	34.8	20.0	"	100		34.8	10-131	12.7	40	
Di-n-octyl phthalate	8/10/20 20:00	73.9	20.0	"	100		73.9	38.6-123	26.7	40	
Fluoranthene	8/5/20 21:38	79.8	20.0	"	100		79.8	44.9-114	1.64	40	
Fluorene	8/5/20 21:38	73.9	20.0	"	100		73.9	45.6-107	22.5	40	
Indeno (1,2,3-cd) pyrene	8/5/20 21:38	90.6	20.0	"	100		90.6	45.8-104	22.4	40	
2-Methylnaphthalene	8/5/20 21:38	51.1	20.0	"	100		51.1	44.2-104	19.7	40	
2-Methylphenol	8/5/20 21:38	78.6	20.0	"	100		78.6	44.5-103	6.74	40	
3 & 4-Methylphenol	8/5/20 21:38	158	20.0	"	200		79.0	11-149	5.52	40	
Naphthalene	8/5/20 21:38	55.6	20.0	"	100		55.6	45-100	12.6	40	
Pentachlorophenol	8/5/20 21:38	46.8	20.0	"	100		46.8	17.4-124	3.90	40	
Phenanthrene	8/10/20 20:00	83.8	20.0	"	100		83.8	49.2-107	13.2	40	
Pyrene	8/5/20 21:38	47.8	20.0	"	100		47.8	31.7-124	73.7	40	L3
2,4,6-Trichlorophenol	8/5/20 21:38	59.9	20.0	"	100		59.9	41.7-110	15.3	40	
Surrogate: 2,4,6-Tribromophenol		*47.3*		"	*100*		*47.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*23.9*		"	*50.0*		*47.8*	*14.7-104*			
Surrogate: 2-Fluorophenol		*52.1*		"	*100*		*52.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*23.7*		"	*50.0*		*47.5*	*10-103*			
Surrogate: Phenol-d5		*67.4*		"	*100*		*67.4*	*10-105*			
Surrogate: Terphenyl-dl4		*13.5*		"	*50.0*		*27.0*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0H03042-DUP1)			**Source: 2007590-02**								
Acenaphthene	8/6/20 22:00	355	105	ug/L		317			11.5	45	
Acenaphthylene	8/5/20 22:46	ND	10.5	"		ND				45	
Anthracene	8/6/20 23:42	52.7	10.5	"		36.3			37.0	45	
Benzo (a) anthracene	8/5/20 22:46	38.8	10.5	"		23.5			49.1	45	P3
Benzo (b) fluoranthene	8/5/20 22:46	22.1	10.5	"		16.5			29.3	45	
Benzo (k) fluoranthene	8/6/20 23:42	ND	10.5	"		ND				45	
Benzo (a) pyrene	8/5/20 22:46	13.5	10.5	"		13.1			3.07	45	
Bis(2-ethylhexyl)phthalate	8/6/20 23:42	ND	10.5	"		58.8			200	45	P3
Carbazole	8/5/20 22:46	21.3	10.5	"		14.2			40.3	45	
4-Chloro-3-methylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
Chrysene	8/5/20 22:46	28.1	10.5	"		24.4			13.9	45	
Dibenz (a,h) anthracene	8/5/20 22:46	ND	10.5	"		ND				45	
Dibenzofuran	8/10/20 18:18	110	105	"		110			0.516	45	
2,4-Dimethylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
2,4-Dinitrophenol	8/5/20 22:46	ND	10.5	"		ND				45	
Di-n-octyl phthalate	8/5/20 22:46	ND	10.5	"		ND				45	CC-01
Fluoranthene	8/6/20 22:00	163	105	"		94.0			53.5	45	P3
Fluorene	8/6/20 22:00	221	105	"		181			20.0	45	
Indeno (1,2,3-cd) pyrene	8/5/20 22:46	ND	10.5	"		ND				45	
2-Methylnaphthalene	8/5/20 22:46	32.6	10.5	"		41.2			23.2	45	
2-Methylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
3 & 4-Methylphenol	8/5/20 22:46	ND	10.5	"		ND				45	
Naphthalene	8/5/20 22:46	34.3	10.5	"		33.9			1.20	45	
Pentachlorophenol	8/5/20 22:46	ND	10.5	"		ND				45	
Phenanthrene	8/6/20 22:00	290	105	"		191			41.0	45	
Pyrene	8/6/20 22:00	125	105	"		121			3.28	45	
2,4,6-Trichlorophenol	8/5/20 22:46	ND	10.5	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*64.1*		*"*	*105*		*60.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*40.5*		*"*	*52.6*		*76.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*76.5*		*"*	*105*		*72.7*	*10-100*			
Surrogate: Nitrobenzene-d5		*23.8*		*"*	*52.6*		*45.2*	*10-103*			
Surrogate: Phenol-d5		*73.8*		*"*	*105*		*70.1*	*10-105*			
Surrogate: Terphenyl-dl4		*24.9*		*"*	*52.6*		*47.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03042 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (0H03042-MS1)			**Source: 2007590-02**								
Acenaphthene	8/6/20 22:34	447	211	ug/L	105	317	124	21.2-106			M1
Acenaphthylene	8/5/20 22:12	64.1	21.1	"	105	ND	60.9	23.7-113			
Anthracene	8/7/20 0:16	165	21.1	"	105	36.3	122	32.7-100			M1
Benzo (a) anthracene	8/5/20 22:12	139	21.1	"	105	23.5	110	35.6-101			M1
Benzo (b) fluoranthene	8/5/20 22:12	116	21.1	"	105	16.5	94.7	38.4-100			
Benzo (k) fluoranthene	8/5/20 22:12	93.1	21.1	"	105	ND	88.4	29.6-107			
Benzo (a) pyrene	8/5/20 22:12	104	21.1	"	105	13.1	86.4	32.7-102			
Bis(2-ethylhexyl)phthalate	8/7/20 0:16	101	21.1	"	105	58.8	39.7	28.4-112			
Carbazole	8/5/20 22:12	88.4	21.1	"	105	14.2	70.5	24.9-167			
4-Chloro-3-methylphenol	8/5/20 22:12	58.2	21.1	"	105	ND	55.3	20.7-115			
Chrysene	8/5/20 22:12	143	21.1	"	105	24.4	113	30.8-100			M1
Dibenz (a,h) anthracene	8/5/20 22:12	117	21.1	"	105	ND	111	32.3-103			M1
Dibenzofuran	8/10/20 17:10	118	211	"	105	110	8.14	29.1-105			M1
2,4-Dimethylphenol	8/5/20 22:12	69.2	21.1	"	105	ND	65.7	15.6-114			
2,4-Dinitrophenol	8/5/20 22:12	33.8	21.1	"	105	ND	32.1	10-110			
Di-n-octyl phthalate	8/5/20 22:12	88.8	21.1	"	105	ND	84.3	19.2-118			CC-03
Fluoranthene	8/7/20 0:16	186	21.1	"	105	94.0	86.9	31.9-106			
Fluorene	8/6/20 22:34	286	211	"	105	181	101	28.1-104			
Indeno (1,2,3-cd) pyrene	8/5/20 22:12	112	21.1	"	105	ND	107	29.6-105			M1
2-Methylnaphthalene	8/5/20 22:12	120	21.1	"	105	41.2	74.8	18.5-106			
2-Methylphenol	8/5/20 22:12	79.8	21.1	"	105	ND	75.8	10-106			
3 & 4-Methylphenol	8/5/20 22:12	157	21.1	"	211	ND	74.5	10-139			
Naphthalene	8/5/20 22:12	90.7	21.1	"	105	33.9	53.9	17-100			
Pentachlorophenol	8/5/20 22:12	61.8	21.1	"	105	ND	58.7	10-119			
Phenanthrene	8/6/20 22:34	272	211	"	105	191	76.4	34.8-106			
Pyrene	8/6/20 22:34	298	211	"	105	121	169	10-127			M1
2,4,6-Trichlorophenol	8/5/20 22:12	69.9	21.1	"	105	ND	66.4	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*55.9*		"	*105*		*53.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*29.6*		"	*52.6*		*56.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*51.8*		"	*105*		*49.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*28.8*		"	*52.6*		*54.6*	*10-103*			
Surrogate: Phenol-d5		*68.8*		"	*105*		*65.4*	*10-105*			
Surrogate: Terphenyl-dl4		*21.6*		"	*52.6*		*41.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03040 - EPA 5030B											
Blank (0H03040-BLK1)											
Benzene	7/31/20 12:09	ND	5.00	ug/L							
Ethylbenzene	7/31/20 12:09	ND	5.00	"							
Surrogate: Dibromofluoromethane		*55.5*		"	*50.0*		*111*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.4*		"	*50.0*		*96.8*	*70-130*			
Surrogate: Toluene-d8		*46.9*		"	*50.0*		*93.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.7*		"	*50.0*		*103*	*70-130*			
Blank (0H03040-BLK2)											
Benzene	8/3/20 14:15	ND	5.00	ug/L							
Ethylbenzene	8/3/20 14:15	ND	5.00	"							
Surrogate: Dibromofluoromethane		*56.4*		"	*50.0*		*113*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.7*		"	*50.0*		*97.4*	*70-130*			
Surrogate: Toluene-d8		*44.9*		"	*50.0*		*89.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.0*		"	*50.0*		*102*	*70-130*			
LCS (0H03040-BS1)											
Benzene	7/31/20 12:36	17.6	5.00	ug/L	20.0		88.2	70.8-137			
Ethylbenzene	7/31/20 12:36	15.1	5.00	"	20.0		75.7	73.6-139			
Surrogate: Dibromofluoromethane		*52.2*		"	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*47.6*		"	*50.0*		*95.1*	*70-130*			
Surrogate: Toluene-d8		*46.0*		"	*50.0*		*92.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.2*		"	*50.0*		*102*	*70-130*			
LCS (0H03040-BS2)											
Benzene	8/3/20 13:04	23.1	5.00	ug/L	20.0		116	70.8-137			
Ethylbenzene	8/3/20 13:04	19.5	5.00	"	20.0		97.3	73.6-139			
Surrogate: Dibromofluoromethane		*52.7*		"	*50.0*		*105*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*46.2*		"	*50.0*		*92.4*	*70-130*			
Surrogate: Toluene-d8		*44.7*		"	*50.0*		*89.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.1*		"	*50.0*		*104*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H03040 - EPA 5030B											
LCS Dup (0H03040-BSD1)											
Benzene	7/31/20 13:02	18.3	5.00	ug/L	20.0		91.7	70.8-137	3.84	30	
Ethylbenzene	7/31/20 13:02	16.0	5.00	"	20.0		79.9	73.6-139	5.34	30	
Surrogate: Dibromofluoromethane		*52.7*		"	*50.0*		*105*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*46.4*		"	*50.0*		*92.8*	*70-130*			
Surrogate: Toluene-d8		*46.5*		"	*50.0*		*92.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.8*		"	*50.0*		*102*	*70-130*			
LCS Dup (0H03040-BSD2)											
Benzene	8/3/20 13:30	23.4	5.00	ug/L	20.0		117	70.8-137	1.42	30	
Ethylbenzene	8/3/20 13:30	20.0	5.00	"	20.0		99.9	73.6-139	2.64	30	
Surrogate: Dibromofluoromethane		*53.4*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*46.1*		"	*50.0*		*92.1*	*70-130*			
Surrogate: Toluene-d8		*45.0*		"	*50.0*		*90.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.2*		"	*50.0*		*102*	*70-130*			
Matrix Spike (0H03040-MS1)			**Source: 2007590-02**								
Benzene	8/3/20 16:01	24.5	5.00	ug/L	20.0	ND	123	76.8-144			
Ethylbenzene	8/3/20 16:01	20.5	5.00	"	20.0	1.07	97.1	72-147			
Surrogate: Dibromofluoromethane		*53.1*		"	*50.0*		*106*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.4*		"	*50.0*		*96.8*	*70-130*			
Surrogate: Toluene-d8		*45.0*		"	*50.0*		*90.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.1*		"	*50.0*		*104*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzyl alcohol	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Butyl benzyl phthalate	C01,C02
Carbazole	C01,C02
4-Chloroaniline	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 08/12/2020 10:05

2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
08/12/2020 10:05

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2021*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2021*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	08/12/2020 10:05

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Gayle M. Sparling	GMS
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2007590

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days

- x Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 3RD QTR 2020
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE NITRATE AMMONIA	METALS	BNA	VOA
Preservative:									
RC-3A	7-30-20/10:30	W	7	G	X	X	X	X	X
T-2	7-30-20/11:00	W	11	G	X	X	X	X	X
RC-2A	7-30-20/13:45	W	7	G	X	X	X	X	X
TBV#6493	7-30-20/10:30	W	2	G					X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y (N) Thermometer# 4 Cooler# client
Date & Time _____ By: _____
Receipt Temp Corrected(°C) 2.3c
Sample ____ Blank X Cooler ____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	7-30-20	15:51
Received by	Sarah Tomek	Sarah Tomek	MM	7/30/2020	1557
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

September 02, 2020

Ethan Allen

Work Order # : 2008233

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 08/12/2020 15:30. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/T-1	2008233-01	Water	08/12/2020 08:45	*Jeff Gonsoulin*	08/12/2020 15:30
Mobile/RC-3	2008233-02	Water	08/12/2020 09:10	*Jeff Gonsoulin*	08/12/2020 15:30
Mobile/RW-3A	2008233-03	Water	08/12/2020 09:30	*Jeff Gonsoulin*	08/12/2020 15:30
Mobile/RW-4	2008233-04	Water	08/12/2020 09:50	*Jeff Gonsoulin*	08/12/2020 15:30
Mobile/RW-5	2008233-05	Water	08/12/2020 10:10	*Jeff Gonsoulin*	08/12/2020 15:30
Mobile/RC-2	2008233-06	Water	08/12/2020 13:00	*Jeff Gonsoulin*	08/12/2020 15:30
Trip Blank TBV#6492	2008233-07	Water	08/12/2020 08:45	*Micro Methods*	08/12/2020 15:30

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Sample Receipt Conditions

Date/Time Received: 8/12/2020 3:30:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 8/13/2020 9:24:00AM
Cooler ID: #1143

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.5 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Cooler ID: client cooler

Receipt Temperature: 0.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	09/02/2020 13:48

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found. All pH samples received out of hold time.- SET

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 09/02/2020 13:48

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5

2008233-04[Mobile/RW-4], 2008233-05[Mobile/RW-5]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

0H18037-BLK1, 0H18037-DUP1, 2008233-03[Mobile/RW-3A], 2008233-04[Mobile/RW-4], 2008233-05[Mobile/RW-5]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

0H18037-BS1, 0H18037-BSD1

CC-04 CCV exceeds acceptance limits. Results reported are estimated values.

Dibenz (a,h) anthracene

0H18037-BSD1

L1 LCS and/or LCSD Recovery Limit exceeded.

Dibenz (a,h) anthracene

0H18037-BSD1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

0H17037-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

2-Fluorobiphenyl

0H17037-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	09/02/2020 13:48

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

0H13053-DUP1, 2008233-01[Mobile/T-1], 2008233-02[Mobile/RC-3], 2008233-03[Mobile/ RW-3A], 2008233-04[Mobile/RW-4], 2008233-05[Mobile/RW-5], 2008233-06[Mobile/RC-2]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/T-1

2008233-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**1.09**	0.500	mg/L	1.0	0H13057	DLW	08/13/2020 13:34	08/13/2020 13:34	SM 4110B 2011	
Nitrate as N	**0.659**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0H12060	AKL	08/13/2020 10:00	08/13/2020 11:34	Lachat 10-107-06-1-I	
pH	**7.24**		pH Units	"	0H13053	AKL	08/13/2020 14:45	08/13/2020 14:50	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**131**		umhos/cm @25.0 C	"	0H13054	AKL	08/13/2020 15:20	08/13/2020 15:48	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00416**	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 19:18	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00153**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**14.1**	10.2	ug/L	1.0	0H17037	CRLV	08/17/2020 10:30	08/26/2020 20:46	EPA 8270D	
Acenaphthylene	ND	10.2	"	"	"	CRLV	"	"	"	
Anthracene	**11.1**	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**50.0**	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**45.5**	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**18.0**	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**23.7**	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	**55.7**	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**121**	10.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**26.1**	10.2	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	**31.3**	10.2	"	"	"	CRLV	"	"	"	
Pyrene	**101**	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/T-1

2008233-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Semivolatile Organic Compounds by SW-846 Method 8270D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	108	*106 %*	*13.3-115*	*0H17037*	CRLV	*08/17/2020 10:30*	"	"	
2-Fluorobiphenyl	45.2	*89.1 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	98.8	*97.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	39.5	*77.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	86.7	*85.4 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	39.1	*77.1 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Benzene	ND	5.00	ug/L	1.0	0H19061	SAD	08/17/2020 08:00	08/17/2020 12:27	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.4	*109 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.9	*102 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	50.3	*101 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	49.6	*99.2 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RC-3

2008233-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**341**	10.0	mg/L	20.0	0H13057	DLW	08/13/2020 13:54	08/13/2020 14:14	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	DLW	"	08/13/2020 13:54	"	
Ammonia as N	**9.94**	0.21	"	"	0H12060	AKL	08/13/2020 10:00	08/13/2020 11:35	Lachat 10-107-06-1-I	
pH	**6.70**		pH Units	"	0H13053	AKL	08/13/2020 14:45	08/13/2020 14:50	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1590**		umhos/cm @25.0 C	"	0H13054	AKL	08/13/2020 15:20	08/13/2020 15:48	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 19:26	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00162**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RC-3

2008233-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**3410**	1080	ug/L	100.0	0H17037	CRLV	08/17/2020 10:30	08/27/2020 16:24	EPA 8270D	
Acenaphthylene	ND	108	"	10.0	"	CRLV	"	08/26/2020 20:11	"	
Anthracene	**454**	108	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**869**	108	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**617**	108	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**176**	108	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**342**	108	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	108	"	"	"	CRLV	"	"	"	
Carbazole	**1230**	108	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	108	"	"	"	CRLV	"	"	"	
Chrysene	**622**	108	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	108	"	"	"	CRLV	"	"	"	
Dibenzofuran	**1610**	1080	"	100.0	"	CRLV	"	08/27/2020 16:24	"	
2,4-Dimethylphenol	ND	108	"	10.0	"	CRLV	"	08/26/2020 20:11	"	
2,4-Dinitrophenol	ND	108	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	108	"	"	"	CRLV	"	"	"	
Fluoranthene	**4020**	1080	"	100.0	"	CRLV	"	08/31/2020 13:56	"	
Fluorene	**2580**	1080	"	"	"	CRLV	"	08/27/2020 16:24	"	
Indeno (1,2,3-cd) pyrene	ND	108	"	10.0	"	CRLV	"	08/26/2020 20:11	"	
2-Methylnaphthalene	**2320**	1080	"	100.0	"	CRLV	"	08/27/2020 16:24	"	
2-Methylphenol	**164**	108	"	10.0	"	CRLV	"	08/26/2020 20:11	"	
3 & 4-Methylphenol	**163**	108	"	"	"	CRLV	"	"	"	
Naphthalene	**9700**	1080	"	100.0	"	CRLV	"	08/27/2020 16:24	"	
Pentachlorophenol	ND	108	"	10.0	"	CRLV	"	08/26/2020 20:11	"	
Phenanthrene	**7860**	1080	"	100.0	"	CRLV	"	08/27/2020 16:24	"	
Pyrene	**2810**	1080	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	108	"	10.0	"	CRLV	"	08/26/2020 20:11	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	95.9	*88.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	29.8	*55.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	60.4	*55.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	32.9	*60.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	53.8	*49.8 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	14.5	*26.8 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D										
Benzene	**38.2**	5.00	ug/L	1.0	0H19061	SAD	08/17/2020 08:00	08/17/2020 12:54	EPA 8260D	
Ethylbenzene	**41.7**	5.00	"	"	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RC-3

2008233-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.5	*109 %*	*70-130*	*0H19061*	SAD	*08/17/2020 08:00*	"	"	
1,2-Dichloroethane-d4	49.1	*98.1 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	49.1	*98.1 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	49.1	*98.2 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-3A

2008233-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**14.6**	1.00	mg/L	2.0	0H13057	DLW	08/13/2020 14:33	08/13/2020 17:34	SM 4110B 2011	
Nitrate as N	ND	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**10.1**	0.21	"	1.0	0H12060	AKL	08/13/2020 10:00	08/13/2020 11:36	Lachat 10-107-06-1-I	
pH	**7.85**		pH Units	"	0H13053	AKL	08/13/2020 14:45	08/13/2020 14:50	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**398**		umhos/cm @25.0 C	"	0H13054	AKL	08/13/2020 15:20	08/13/2020 15:48	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 19:42	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-3A

2008233-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**213**	205	ug/L	50.0	0H18037	CRLV	08/18/2020 10:34	08/21/2020 14:35	EPA 8270D	
Acenaphthylene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	
Anthracene	**26.6**	22.6	"	10.0	"	CRLV	"	08/21/2020 15:49	"	
Benzo (a) anthracene	**26.2**	24.0	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**23.8**	20.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	
Benzo (a) pyrene	**18.9**	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**88.8**	82.1	"	10.0	"	CRLV	"	08/21/2020 15:49	"	
4-Chloro-3-methylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	
Chrysene	**33.9**	25.6	"	10.0	"	CRLV	"	08/21/2020 15:49	"	
Dibenz (a,h) anthracene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	CC-01
Dibenzofuran	**98.9**	92.3	"	10.0	"	CRLV	"	08/21/2020 15:49	"	
2,4-Dimethylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**117**	103	"	10.0	"	CRLV	"	08/21/2020 15:49	"	
Fluorene	**130**	103	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	CC-01
2-Methylnaphthalene	**130**	103	"	10.0	"	CRLV	"	08/21/2020 15:49	"	
2-Methylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**942**	513	"	50.0	"	CRLV	"	08/21/2020 14:35	"	
Phenanthrene	**198**	103	"	10.0	"	CRLV	"	08/21/2020 15:49	"	
Pyrene	**57.3**	51.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 20:06	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.97	*68.0 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.56	*50.0 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.06	*29.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.39	*46.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.00	*19.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.04	*39.8 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0H18037	CRLV	"	08/20/2020 20:06	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-3A

2008233-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	6.97	*68.0 %*	*16.2-100*		*0H18037*	CRLV	*08/18/2020 10:34*	"	"	
2-Fluorophenol	3.06	*29.8 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	2.00	*19.5 %*	*16.1-100*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H19061	SAD	08/17/2020 08:00	08/17/2020 13:20	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	53.3	*107 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	49.7	*99.3 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	49.8	*99.6 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	51.7	*103 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-4

2008233-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0H18032	CRLV	08/18/2020 08:14	08/18/2020 15:25	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.111	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.162	*80.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.131	*65.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**8.74**	0.500	mg/L	1.0	0H13057	DLW	08/13/2020 14:53	08/13/2020 14:53	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	**0.48**	0.21	"	"	0H12060	AKL	08/13/2020 10:00	08/13/2020 11:37	Lachat 10-107-06-1-I	
pH	**6.81**		pH Units	"	0H13053	AKL	08/13/2020 14:45	08/13/2020 14:50	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**90**		umhos/cm @25.0 C	"	0H13054	AKL	08/13/2020 15:20	08/13/2020 15:48	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 19:50	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00278**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00237**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-4

2008233-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.2	ug/L	1.0	0H18037	CRLV	08/18/2020 10:34	08/20/2020 19:29	EPA 8270D	
Acenaphthylene	ND	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
Dibenzofuran	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**14.0**	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.42	*62.9 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.37	*46.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.49	*24.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.15	*42.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.59	*15.6 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.86	*56.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0H18037	CRLV	"	08/20/2020 19:29	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.42	*62.9 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.49	*24.4 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.59	*15.6 %*	*16.1-100*	"	CRLV	"	"	"	*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-4

2008233-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H19061	SAD	08/17/2020 08:00	08/17/2020 13:46	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	52.6	*105 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	51.0	*102 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	50.2	*100 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	51.0	*102 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-5

2008233-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	0H18032	CRLV	08/18/2020 08:14	08/18/2020 16:48	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.112	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.142	*70.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.112	*55.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**1.13**	0.500	mg/L	1.0	0H13057	DLW	08/13/2020 15:13	08/13/2020 15:13	SM 4110B 2011	
Nitrate as N	**1.35**	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.21	"	"	0H12060	AKL	08/13/2020 10:00	08/13/2020 11:39	Lachat 10-107-06-1-I	
pH	**6.97**		pH Units	"	0H13053	AKL	08/13/2020 14:45	08/13/2020 15:36	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**75**		umhos/cm @25.0 C	"	0H13054	AKL	08/13/2020 15:20	08/13/2020 15:48	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 20:06	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00226**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-5

2008233-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	0H18037	CRLV	08/18/2020 10:34	08/20/2020 18:53	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.48	*62.9 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.46	*47.8 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.29	*22.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.26	*43.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.47	*14.3 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.40	*46.6 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0H18037	CRLV	"	08/20/2020 18:53	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.48	*62.9 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.29	*22.2 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.47	*14.3 %*	*16.1-100*	"	CRLV	"	"	"	*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RW-5

2008233-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H19061	SAD	08/17/2020 08:00	08/17/2020 14:13	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	53.4	*107 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.8	*102 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	49.7	*99.4 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	50.3	*101 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RC-2

2008233-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**52.7**	1.00	mg/L	2.0	0H13057	DLW	08/13/2020 15:33	08/13/2020 17:54	SM 4110B 2011	
Nitrate as N	ND	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**2.34**	0.21	"	1.0	0H12060	AKL	08/13/2020 10:00	08/13/2020 11:40	Lachat 10-107-06-1-I	
pH	**6.63**		pH Units	"	0H13053	AKL	08/13/2020 14:45	08/13/2020 15:36	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**397**		umhos/cm @25.0 C	"	0H13054	AKL	08/13/2020 15:20	08/13/2020 15:48	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 20:14	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00190**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RC-2

2008233-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**45.8**	10.2	ug/L	1.0	0H17037	CRLV	08/17/2020 10:30	08/24/2020 19:44	EPA 8270D	
Acenaphthylene	ND	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	106	*104 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	49.6	*97.3 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	89.0	*87.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	42.0	*82.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	82.2	*80.6 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	29.6	*58.0 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D									
Benzene	ND	5.00	ug/L	1.0	0H19061	SAD	08/17/2020 08:00	08/17/2020 14:39	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Mobile/RC-2

2008233-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	53.1	*106 %*	*70-130*	*0H19061*	SAD	*08/17/2020 08:00*	"	"	
1,2-Dichloroethane-d4	50.1	*100 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	50.0	*100 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	49.9	*99.8 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Trip Blank TBV#6492

2008233-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H19061	SAD	08/17/2020 08:00	08/17/2020 15:05	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	52.7	*105 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.7	*101 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	50.0	*100 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	50.9	*102 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
Blank (0H18032-BLK1)											
Benzo (a) pyrene	8/18/20 12:40	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.140*		*"*	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		*"*	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.210*		*"*	*0.200*		*105*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
LCS (0H18032-BS1)											
Benzo (a) pyrene	8/18/20 13:21	0.27	0.06	ug/L	0.200		135	10-149			
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		"	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.210*		"	*0.200*		*105*	*11.3-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0H18032-BSD1)											
Benzo (a) pyrene	8/18/20 14:03	0.29	0.06	ug/L	0.200		145	10-149	7.14	40	
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		"	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.210*		"	*0.200*		*105*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0H18032-DUP1)			**Source: 2008233-04**								
Benzo (a) pyrene	8/18/20 16:07	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.113*		*"*	*0.206*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.165*		*"*	*0.206*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.124*		*"*	*0.206*		*60.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H12060 - Default Prep GenChem											
Blank (0H12060-BLK1)											
Ammonia as N	8/13/20 10:39	ND	0.21	mg/L							
LCS (0H12060-BS1)											
Ammonia as N	8/13/20 10:43	5.18	0.21	mg/L	5.00		104	90-110			
LCS Dup (0H12060-BSD1)											
Ammonia as N	8/13/20 10:46	5.17	0.21	mg/L	5.00		103	90-110	0.193	10	
Matrix Spike (0H12060-MS1)			**Source: 2008230-02**								
Ammonia as N	8/13/20 11:13	4.66	0.21	mg/L	5.00	0.15	90.3	90-110			
Matrix Spike Dup (0H12060-MSD1)			**Source: 2008230-02**								
Ammonia as N	8/13/20 13:01	4.69	0.21	mg/L	5.00	0.15	90.9	90-110	0.642	10	
Batch 0H13053 - Default Prep GenChem											
Duplicate (0H13053-DUP1)			**Source: 2008233-01**								
pH	8/13/20 15:36	7.28		pH Units		7.24			0.551	5	HT-02
Batch 0H13054 - Default Prep GenChem											
LCS (0H13054-BS1)											
Specific Conductance (EC)	8/13/20 15:48	1420		uS/cm	1410		100	90-110			
Duplicate (0H13054-DUP1)			**Source: 2008233-01**								
Specific Conductance (EC)	8/13/20 15:48	129		umhos/cm @25.0 C		131			1.15	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H13057 - Default Prep GenChem											
Blank (0H13057-BLK1)											
Chloride	8/13/20 11:22	ND	0.500	mg/L							
Nitrate as N	8/13/20 11:22	ND	0.500	"							
LCS (0H13057-BS1)											
Chloride	8/13/20 10:42	2.97	0.500	mg/L	3.00		98.9	81.8-111			
Nitrate as N	8/13/20 10:42	2.23	0.500	"	2.26		98.7	81.1-113			
LCS Dup (0H13057-BSD1)											
Chloride	8/13/20 11:02	2.81	0.500	mg/L	3.00		93.5	81.8-111	5.61	20	
Nitrate as N	8/13/20 11:02	2.23	0.500	"	2.26		98.8	81.1-113	0.0897	20	
Duplicate (0H13057-DUP2)			**Source: 2008233-04**								
Chloride	8/13/20 16:34	8.66	0.500	mg/L		8.74			0.931	20	
Nitrate as N	8/13/20 16:34	ND	0.500	"		ND				20	
Matrix Spike (0H13057-MS2)			**Source: 2008233-04**								
Chloride	8/13/20 16:54	30.4	0.500	mg/L	20.0	8.74	108	75.3-124			
Nitrate as N	8/13/20 16:54	4.65	0.500	"	4.52	ND	103	58.5-131			
Matrix Spike Dup (0H13057-MSD2)			**Source: 2008233-04**								
Chloride	8/13/20 17:14	30.3	0.500	mg/L	20.0	8.74	108	75.3-124	0.300	20	
Nitrate as N	8/13/20 17:14	4.68	0.500	"	4.52	ND	104	58.5-131	0.793	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17026 - EPA 200.2 DCN 1017 Rev 9											
Blank (0H17026-BLK1)											
Arsenic [HHe]	8/18/20 12:24	ND	0.00200	mg/L							
Chromium [He]	8/18/20 12:24	ND	0.00100	"							
Lead [He]	8/18/20 12:24	ND	0.00100	"							
Nickel [He]	8/18/20 12:24	ND	0.0400	"							
LCS (0H17026-BS1)											
Arsenic [HHe]	8/18/20 12:32	0.097	0.00200	mg/L	0.100		96.9	85-115			
Chromium [He]	8/18/20 12:32	0.097	0.00100	"	0.100		96.7	85-115			
Lead [He]	8/18/20 12:32	0.094	0.00100	"	0.100		93.9	85-115			
Nickel [He]	8/18/20 12:32	0.098	0.0400	"	0.100		97.6	85-115			
LCS Dup (0H17026-BSD1)											
Arsenic [HHe]	8/18/20 12:40	0.099	0.00200	mg/L	0.100		98.9	85-115	2.06	20	
Chromium [He]	8/18/20 12:40	0.098	0.00100	"	0.100		97.9	85-115	1.17	20	
Lead [He]	8/18/20 12:40	0.095	0.00100	"	0.100		94.6	85-115	0.727	20	
Nickel [He]	8/18/20 12:40	0.099	0.0400	"	0.100		98.7	85-115	1.18	20	
Matrix Spike (0H17026-MS1)			**Source: 2008259-01**								
Arsenic [HHe]	8/18/20 20:39	0.098	0.00200	mg/L	0.100	0.0004	97.9	70-130			
Chromium [He]	8/18/20 20:39	0.093	0.00100	"	0.100	ND	93.3	70-130			
Lead [He]	8/18/20 20:39	0.098	0.00100	"	0.100	ND	97.9	70-130			
Nickel [He]	8/18/20 20:39	0.091	0.0400	"	0.100	0.0003	90.9	70-130			
Matrix Spike Dup (0H17026-MSD1)			**Source: 2008259-01**								
Arsenic [HHe]	8/18/20 20:55	0.098	0.00200	mg/L	0.100	0.0004	97.6	70-130	0.301	20	
Chromium [He]	8/18/20 20:55	0.094	0.00100	"	0.100	ND	94.0	70-130	0.811	20	
Lead [He]	8/18/20 20:55	0.098	0.00100	"	0.100	ND	98.2	70-130	0.266	20	
Nickel [He]	8/18/20 20:55	0.092	0.0400	"	0.100	0.0003	92.0	70-130	1.17	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
Blank (0H17037-BLK1)											
Acenaphthene	8/26/20 15:40	ND	10.0	ug/L							
Acenaphthylene	8/26/20 15:40	ND	10.0	"							
Anthracene	8/26/20 15:40	ND	10.0	"							
Benzo (a) anthracene	8/26/20 15:40	ND	10.0	"							
Benzo (b) fluoranthene	8/26/20 15:40	ND	10.0	"							
Benzo (k) fluoranthene	8/26/20 15:40	ND	10.0	"							
Benzo (a) pyrene	8/26/20 15:40	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	8/26/20 15:40	ND	10.0	"							
Carbazole	8/26/20 15:40	ND	10.0	"							
4-Chloro-3-methylphenol	8/26/20 15:40	ND	10.0	"							
Chrysene	8/26/20 15:40	ND	10.0	"							
Dibenz (a,h) anthracene	8/26/20 15:40	ND	10.0	"							
Dibenzofuran	8/26/20 15:40	ND	10.0	"							
2,4-Dimethylphenol	8/26/20 15:40	ND	10.0	"							
2,4-Dinitrophenol	8/26/20 15:40	ND	10.0	"							
Di-n-octyl phthalate	8/26/20 15:40	ND	10.0	"							
Fluoranthene	8/26/20 15:40	ND	10.0	"							
Fluorene	8/26/20 15:40	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	8/26/20 15:40	ND	10.0	"							
2-Methylnaphthalene	8/26/20 15:40	ND	10.0	"							
2-Methylphenol	8/26/20 15:40	ND	10.0	"							
3 & 4-Methylphenol	8/26/20 15:40	ND	10.0	"							
Naphthalene	8/26/20 15:40	ND	10.0	"							
Pentachlorophenol	8/26/20 15:40	ND	10.0	"							
Phenanthrene	8/26/20 15:40	ND	10.0	"							
Pyrene	8/26/20 15:40	ND	10.0	"							
2,4,6-Trichlorophenol	8/26/20 15:40	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*76.5*		*"*	*100*		*76.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*34.7*		*"*	*50.0*		*69.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*60.1*		*"*	*100*		*60.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*30.7*		*"*	*50.0*		*61.3*	*10-103*			
Surrogate: Phenol-d5		*60.2*		*"*	*100*		*60.2*	*10-105*			
Surrogate: Terphenyl-dl4		*39.1*		*"*	*50.0*		*78.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
LCS (0H17037-BS1)											
Acenaphthene	8/26/20 16:14	84.5	20.0	ug/L	100		84.5	45.5-108			
Acenaphthylene	8/26/20 16:14	87.6	20.0	"	100		87.6	46.4-114			
Anthracene	8/26/20 16:14	82.4	20.0	"	100		82.4	47-106			
Benzo (a) anthracene	8/26/20 16:14	80.6	20.0	"	100		80.6	50.8-105			
Benzo (b) fluoranthene	8/26/20 16:14	77.5	20.0	"	100		77.5	47-109			
Benzo (k) fluoranthene	8/26/20 16:14	78.2	20.0	"	100		78.2	44-111			
Benzo (a) pyrene	8/26/20 16:14	73.8	20.0	"	100		73.8	52.9-103			
Bis(2-ethylhexyl)phthalate	8/26/20 16:14	83.9	20.0	"	100		83.9	36.4-121			
Carbazole	8/26/20 16:14	94.2	20.0	"	100		94.2	25-172			
4-Chloro-3-methylphenol	8/26/20 16:14	86.6	20.0	"	100		86.6	46.4-108			
Chrysene	8/26/20 16:14	82.2	20.0	"	100		82.2	46.6-100			
Dibenz (a,h) anthracene	8/26/20 16:14	68.8	20.0	"	100		68.8	46.7-102			
Dibenzofuran	8/26/20 16:14	82.9	20.0	"	100		82.9	45.8-105			
2,4-Dimethylphenol	8/26/20 16:14	72.2	20.0	"	100		72.2	41.6-101			
2,4-Dinitrophenol	8/26/20 16:14	43.1	20.0	"	100		43.1	10-131			
Di-n-octyl phthalate	8/26/20 16:14	80.8	20.0	"	100		80.8	38.6-123			
Fluoranthene	8/26/20 16:14	84.0	20.0	"	100		84.0	44.9-114			
Fluorene	8/26/20 16:14	91.5	20.0	"	100		91.5	45.6-107			
Indeno (1,2,3-cd) pyrene	8/26/20 16:14	68.2	20.0	"	100		68.2	45.8-104			
2-Methylnaphthalene	8/26/20 16:14	83.2	20.0	"	100		83.2	44.2-104			
2-Methylphenol	8/26/20 16:14	73.6	20.0	"	100		73.6	44.5-103			
3 & 4-Methylphenol	8/26/20 16:14	164	20.0	"	200		82.1	11-149			
Naphthalene	8/26/20 16:14	79.2	20.0	"	100		79.2	45-100			
Pentachlorophenol	8/26/20 16:14	44.5	20.0	"	100		44.5	17.4-124			
Phenanthrene	8/26/20 16:14	81.1	20.0	"	100		81.1	49.2-107			
Pyrene	8/26/20 16:14	88.0	20.0	"	100		88.0	31.7-124			
2,4,6-Trichlorophenol	8/26/20 16:14	78.9	20.0	"	100		78.9	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*76.6*		"	*100*		*76.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*33.1*		"	*50.0*		*66.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*57.9*		"	*100*		*57.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*28.2*		"	*50.0*		*56.5*	*10-103*			
Surrogate: Phenol-d5		*68.1*		"	*100*		*68.1*	*10-105*			
Surrogate: Terphenyl-dl4		*36.6*		"	*50.0*		*73.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0H17037-BSD1)											
Acenaphthene	8/26/20 16:48	83.1	20.0	ug/L	100		83.1	45.5-108	1.67	40	
Acenaphthylene	8/26/20 16:48	85.4	20.0	"	100		85.4	46.4-114	2.50	40	
Anthracene	8/26/20 16:48	81.2	20.0	"	100		81.2	47-106	1.52	40	
Benzo (a) anthracene	8/26/20 16:48	76.9	20.0	"	100		76.9	50.8-105	4.67	40	
Benzo (b) fluoranthene	8/26/20 16:48	78.4	20.0	"	100		78.4	47-109	1.18	40	
Benzo (k) fluoranthene	8/26/20 16:48	80.5	20.0	"	100		80.5	44-111	2.92	40	
Benzo (a) pyrene	8/26/20 16:48	73.4	20.0	"	100		73.4	52.9-103	0.571	40	
Bis(2-ethylhexyl)phthalate	8/26/20 16:48	82.2	20.0	"	100		82.2	36.4-121	2.10	40	
Carbazole	8/26/20 16:48	95.7	20.0	"	100		95.7	25-172	1.56	40	
4-Chloro-3-methylphenol	8/26/20 16:48	89.5	20.0	"	100		89.5	46.4-108	3.25	40	
Chrysene	8/26/20 16:48	77.8	20.0	"	100		77.8	46.6-100	5.50	40	
Dibenz (a,h) anthracene	8/26/20 16:48	71.2	20.0	"	100		71.2	46.7-102	3.49	40	
Dibenzofuran	8/26/20 16:48	85.2	20.0	"	100		85.2	45.8-105	2.76	40	
2,4-Dimethylphenol	8/26/20 16:48	83.0	20.0	"	100		83.0	41.6-101	14.0	40	
2,4-Dinitrophenol	8/26/20 16:48	44.6	20.0	"	100		44.6	10-131	3.37	40	
Di-n-octyl phthalate	8/26/20 16:48	82.3	20.0	"	100		82.3	38.6-123	1.81	40	
Fluoranthene	8/26/20 16:48	80.8	20.0	"	100		80.8	44.9-114	3.83	40	
Fluorene	8/26/20 16:48	89.0	20.0	"	100		89.0	45.6-107	2.73	40	
Indeno (1,2,3-cd) pyrene	8/26/20 16:48	71.7	20.0	"	100		71.7	45.8-104	5.12	40	
2-Methylnaphthalene	8/26/20 16:48	82.0	20.0	"	100		82.0	44.2-104	1.36	40	
2-Methylphenol	8/26/20 16:48	72.1	20.0	"	100		72.1	44.5-103	2.00	40	
3 & 4-Methylphenol	8/26/20 16:48	163	20.0	"	200		81.6	11-149	0.611	40	
Naphthalene	8/26/20 16:48	77.3	20.0	"	100		77.3	45-100	2.35	40	
Pentachlorophenol	8/26/20 16:48	52.0	20.0	"	100		52.0	17.4-124	15.4	40	
Phenanthrene	8/26/20 16:48	78.9	20.0	"	100		78.9	49.2-107	2.80	40	
Pyrene	8/26/20 16:48	83.0	20.0	"	100		83.0	31.7-124	5.85	40	
2,4,6-Trichlorophenol	8/26/20 16:48	78.6	20.0	"	100		78.6	41.7-110	0.432	40	
Surrogate: 2,4,6-Tribromophenol		*76.0*		"	*100*		*76.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*32.7*		"	*50.0*		*65.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*57.3*		"	*100*		*57.3*	*10-100*			
Surrogate: Nitrobenzene-d5		*38.2*		"	*50.0*		*76.5*	*10-103*			
Surrogate: Phenol-d5		*68.2*		"	*100*		*68.2*	*10-105*			
Surrogate: Terphenyl-dl4		*34.1*		"	*50.0*		*68.2*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0H17037-DUP1)			**Source: 2008233-06**								
Acenaphthene	8/24/20 19:10	54.1	11.4	ug/L		45.8			16.7	45	
Acenaphthylene	8/24/20 19:10	ND	11.4	"		ND				45	
Anthracene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (a) anthracene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (b) fluoranthene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (k) fluoranthene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (a) pyrene	8/24/20 19:10	ND	11.4	"		ND				45	
Bis(2-ethylhexyl)phthalate	8/24/20 19:10	ND	11.4	"		ND				45	
Carbazole	8/24/20 19:10	ND	11.4	"		ND				45	
4-Chloro-3-methylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
Chrysene	8/24/20 19:10	ND	11.4	"		ND				45	
Dibenz (a,h) anthracene	8/24/20 19:10	ND	11.4	"		ND				45	
Dibenzofuran	8/24/20 19:10	ND	11.4	"		ND				45	
2,4-Dimethylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
2,4-Dinitrophenol	8/24/20 19:10	ND	11.4	"		ND				45	
Di-n-octyl phthalate	8/24/20 19:10	ND	11.4	"		ND				45	
Fluoranthene	8/24/20 19:10	ND	11.4	"		ND				45	
Fluorene	8/24/20 19:10	ND	11.4	"		ND				45	
Indeno (1,2,3-cd) pyrene	8/24/20 19:10	ND	11.4	"		ND				45	
2-Methylnaphthalene	8/24/20 19:10	ND	11.4	"		ND				45	
2-Methylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
3 & 4-Methylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
Naphthalene	8/24/20 19:10	ND	11.4	"		ND				45	
Pentachlorophenol	8/24/20 19:10	ND	11.4	"		ND				45	
Phenanthrene	8/24/20 19:10	ND	11.4	"		ND				45	
Pyrene	8/24/20 19:10	ND	11.4	"		ND				45	
2,4,6-Trichlorophenol	8/24/20 19:10	ND	11.4	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*141*		*"*	*114*		*124*	*13.3-115*			*SR05*
Surrogate: 2-Fluorobiphenyl		*63.6*		*"*	*56.8*		*112*	*14.7-104*			*SR06*
Surrogate: 2-Fluorophenol		*104*		*"*	*114*		*91.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*49.0*		*"*	*56.8*		*86.3*	*10-103*			
Surrogate: Phenol-d5		*109*		*"*	*114*		*95.8*	*10-105*			
Surrogate: Terphenyl-dl4		*43.9*		*"*	*56.8*		*77.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
Blank (0H18037-BLK1)											
Acenaphthene	8/20/20 9:38	ND	10.0	ug/L							
Acenaphthylene	8/20/20 9:38	ND	10.0	"							
Anthracene	8/20/20 9:38	ND	10.0	"							
Benzo (a) anthracene	8/20/20 9:38	ND	10.0	"							
Benzo (b) fluoranthene	8/20/20 9:38	ND	10.0	"							
Benzo (k) fluoranthene	8/20/20 9:38	ND	10.0	"							
Benzo (a) pyrene	8/20/20 9:38	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	8/20/20 9:38	ND	10.0	"							
Carbazole	8/20/20 9:38	ND	10.0	"							
4-Chloro-3-methylphenol	8/20/20 9:38	ND	10.0	"							
Chrysene	8/20/20 9:38	ND	10.0	"							
Dibenz (a,h) anthracene	8/20/20 9:38	ND	10.0	"							CC-01
Dibenzofuran	8/20/20 9:38	ND	10.0	"							
2,4-Dimethylphenol	8/20/20 9:38	ND	10.0	"							
2,4-Dinitrophenol	8/20/20 9:38	ND	10.0	"							CC-01
Di-n-octyl phthalate	8/20/20 9:38	ND	10.0	"							
Fluoranthene	8/20/20 9:38	ND	10.0	"							
Fluorene	8/20/20 9:38	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	8/20/20 9:38	ND	10.0	"							CC-01
2-Methylnaphthalene	8/20/20 9:38	ND	10.0	"							
2-Methylphenol	8/20/20 9:38	ND	10.0	"							
3 & 4-Methylphenol	8/20/20 9:38	ND	10.0	"							
Naphthalene	8/20/20 9:38	ND	10.0	"							
Phenanthrene	8/20/20 9:38	ND	10.0	"							
Pyrene	8/20/20 9:38	ND	10.0	"							
2,4,6-Trichlorophenol	8/20/20 9:38	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*5.17*		*"*	*10.0*		*51.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.02*		*"*	*5.00*		*60.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.75*		*"*	*10.0*		*57.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.61*		*"*	*5.00*		*52.2*	*10-103*			
Surrogate: Phenol-d5		*5.86*		*"*	*10.0*		*58.6*	*10-105*			
Surrogate: Terphenyl-dl4		*2.63*		*"*	*5.00*		*52.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
LCS (0H18037-BS1)											
Acenaphthene	8/20/20 15:50	7.58	10.0	ug/L	10.0		75.8	45.5-108			
Acenaphthylene	8/20/20 15:50	7.34	10.0	"	10.0		73.4	46.4-114			
Anthracene	8/20/20 15:50	7.93	10.0	"	10.0		79.3	47-106			
Benzo (a) anthracene	8/20/20 15:50	7.81	10.0	"	10.0		78.1	50.8-105			
Benzo (b) fluoranthene	8/20/20 15:50	7.48	10.0	"	10.0		74.8	47-109			
Benzo (k) fluoranthene	8/20/20 15:50	7.38	10.0	"	10.0		73.8	44-111			
Benzo (a) pyrene	8/20/20 15:50	7.79	10.0	"	10.0		77.9	52.9-103			
Bis(2-ethylhexyl)phthalate	8/20/20 15:50	6.76	10.0	"	10.0		67.6	36.4-121			
Carbazole	8/20/20 15:50	7.59	10.0	"	10.0		75.9	25-172			
4-Chloro-3-methylphenol	8/20/20 15:50	8.80	10.0	"	10.0		88.0	46.4-108			
Chrysene	8/20/20 15:50	7.67	10.0	"	10.0		76.7	46.6-100			
Dibenz (a,h) anthracene	8/20/20 15:50	9.95	10.0	"	10.0		99.5	46.7-102			CC-03
Dibenzofuran	8/20/20 15:50	7.84	10.0	"	10.0		78.4	45.8-105			
2,4-Dimethylphenol	8/20/20 15:50	6.75	10.0	"	10.0		67.5	41.6-101			
2,4-Dinitrophenol	8/20/20 15:50	8.08	10.0	"	10.0		80.8	10-131			CC-03
Di-n-octyl phthalate	8/20/20 15:50	5.59	10.0	"	10.0		55.9	38.6-123			
Fluoranthene	8/20/20 15:50	9.23	10.0	"	10.0		92.3	44.9-114			
Fluorene	8/20/20 15:50	7.99	10.0	"	10.0		79.9	45.6-107			
Indeno (1,2,3-cd) pyrene	8/20/20 15:50	10.0	10.0	"	10.0		100	45.8-104			CC-03
2-Methylnaphthalene	8/20/20 15:50	7.43	10.0	"	10.0		74.3	44.2-104			
2-Methylphenol	8/20/20 15:50	7.29	10.0	"	10.0		72.9	44.5-103			
3 & 4-Methylphenol	8/20/20 15:50	15.0	10.0	"	20.0		75.1	11-149			
Naphthalene	8/20/20 15:50	7.28	10.0	"	10.0		72.8	45-100			
Phenanthrene	8/20/20 15:50	7.97	10.0	"	10.0		79.7	49.2-107			
Pyrene	8/20/20 15:50	5.70	10.0	"	10.0		57.0	31.7-124			
2,4,6-Trichlorophenol	8/20/20 15:50	7.75	10.0	"	10.0		77.5	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*8.26*		*"*	*10.0*		*82.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.43*		*"*	*5.00*		*68.6*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.91*		*"*	*10.0*		*69.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.86*		*"*	*5.00*		*77.2*	*10-103*			
Surrogate: Phenol-d5		*7.43*		*"*	*10.0*		*74.3*	*10-105*			
Surrogate: Terphenyl-dl4		*2.65*		*"*	*5.00*		*53.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0H18037-BSD1)											
Acenaphthene	8/20/20 16:26	7.26	10.0	ug/L	10.0		72.6	45.5-108	4.31	40	
Acenaphthylene	8/20/20 16:26	7.06	10.0	"	10.0		70.6	46.4-114	3.89	40	
Anthracene	8/20/20 16:26	7.47	10.0	"	10.0		74.7	47-106	5.97	40	
Benzo (a) anthracene	8/20/20 16:26	7.43	10.0	"	10.0		74.3	50.8-105	4.99	40	
Benzo (b) fluoranthene	8/20/20 16:26	7.24	10.0	"	10.0		72.4	47-109	3.26	40	
Benzo (k) fluoranthene	8/20/20 16:26	7.22	10.0	"	10.0		72.2	44-111	2.19	40	
Benzo (a) pyrene	8/20/20 16:26	7.52	10.0	"	10.0		75.2	52.9-103	3.53	40	
Bis(2-ethylhexyl)phthalate	8/20/20 16:26	6.84	10.0	"	10.0		68.4	36.4-121	1.18	40	
Carbazole	8/20/20 16:26	7.07	10.0	"	10.0		70.7	25-172	7.09	40	
4-Chloro-3-methylphenol	8/20/20 16:26	7.87	10.0	"	10.0		78.7	46.4-108	11.2	40	
Chrysene	8/20/20 16:26	7.22	10.0	"	10.0		72.2	46.6-100	6.04	40	
Dibenz (a,h) anthracene	8/20/20 16:26	10.3	10.0	"	10.0		103	46.7-102	2.97	40	CC-04, L1
Dibenzofuran	8/20/20 16:26	7.42	10.0	"	10.0		74.2	45.8-105	5.50	40	
2,4-Dimethylphenol	8/20/20 16:26	5.77	10.0	"	10.0		57.7	41.6-101	15.7	40	
2,4-Dinitrophenol	8/20/20 16:26	5.97	10.0	"	10.0		59.7	10-131	30.0	40	CC-03
Di-n-octyl phthalate	8/20/20 16:26	5.82	10.0	"	10.0		58.2	38.6-123	4.03	40	
Fluoranthene	8/20/20 16:26	8.09	10.0	"	10.0		80.9	44.9-114	13.2	40	
Fluorene	8/20/20 16:26	7.43	10.0	"	10.0		74.3	45.6-107	7.26	40	
Indeno (1,2,3-cd) pyrene	8/20/20 16:26	10.3	10.0	"	10.0		103	45.8-104	2.95	40	CC-03
2-Methylnaphthalene	8/20/20 16:26	6.90	10.0	"	10.0		69.0	44.2-104	7.40	40	
2-Methylphenol	8/20/20 16:26	6.83	10.0	"	10.0		68.3	44.5-103	6.52	40	
3 & 4-Methylphenol	8/20/20 16:26	14.0	10.0	"	20.0		70.1	11-149	6.96	40	
Naphthalene	8/20/20 16:26	6.78	10.0	"	10.0		67.8	45-100	7.11	40	
Phenanthrene	8/20/20 16:26	7.70	10.0	"	10.0		77.0	49.2-107	3.45	40	
Pyrene	8/20/20 16:26	6.29	10.0	"	10.0		62.9	31.7-124	9.84	40	
2,4,6-Trichlorophenol	8/20/20 16:26	7.33	10.0	"	10.0		73.3	41.7-110	5.57	40	
Surrogate: 2,4,6-Tribromophenol		*7.86*		*"*	*10.0*		*78.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.41*		*"*	*5.00*		*68.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.73*		*"*	*10.0*		*67.3*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.65*		*"*	*5.00*		*73.0*	*10-103*			
Surrogate: Phenol-d5		*7.30*		*"*	*10.0*		*73.0*	*10-105*			
Surrogate: Terphenyl-dl4		*3.08*		*"*	*5.00*		*61.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0H18037-DUP1)			**Source: 2008259-03**								
Acenaphthene	8/21/20 12:44	190	102	ug/L		191			0.189	45	
Acenaphthylene	8/20/20 17:40	ND	10.2	"		ND				45	
Anthracene	8/20/20 17:40	14.9	10.2	"		14.3			4.39	45	
Benzo (a) anthracene	8/20/20 17:40	ND	10.2	"		ND				45	
Benzo (b) fluoranthene	8/20/20 17:40	ND	10.2	"		ND				45	
Benzo (k) fluoranthene	8/20/20 17:40	ND	10.2	"		ND				45	
Benzo (a) pyrene	8/20/20 17:40	ND	10.2	"		ND				45	
Bis(2-ethylhexyl)phthalate	8/20/20 17:40	ND	10.2	"		ND				45	
Carbazole	8/21/20 12:44	81.1	51.0	"		84.2			3.73	45	
4-Chloro-3-methylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
Chrysene	8/20/20 17:40	ND	10.2	"		ND				45	
Dibenz (a,h) anthracene	8/20/20 17:40	ND	10.2	"		ND				45	CC-01
Dibenzofuran	8/21/20 12:44	106	102	"		103			1.94	45	
2,4-Dimethylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
2,4-Dinitrophenol	8/20/20 17:40	ND	10.2	"		ND				45	CC-01
Di-n-octyl phthalate	8/20/20 17:40	ND	10.2	"		ND				45	
Fluoranthene	8/21/20 12:44	24.2	23.5	"		34.9			36.2	45	
Fluorene	8/21/20 12:44	106	102	"		105			1.43	45	
Indeno (1,2,3-cd) pyrene	8/20/20 17:40	ND	10.2	"		ND				45	CC-01
2-Methylnaphthalene	8/21/20 12:44	56.2	51.0	"		52.9			6.05	45	
2-Methylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
3 & 4-Methylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
Naphthalene	8/25/20 22:02	618	102	"		583			5.81	45	
Phenanthrene	8/21/20 12:44	124	102	"		118			5.15	45	
Pyrene	8/20/20 17:40	11.1	10.2	"		10.5			6.31	45	
2,4,6-Trichlorophenol	8/20/20 17:40	ND	10.2	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*7.94*		*"*	*10.2*		*77.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.96*		*"*	*5.10*		*58.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.18*		*"*	*10.2*		*31.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.33*		*"*	*5.10*		*45.6*	*10-103*			
Surrogate: Phenol-d5		*2.05*		*"*	*10.2*		*20.1*	*10-105*			
Surrogate: Terphenyl-dl4		*2.57*		*"*	*5.10*		*50.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
Blank (0H18037-BLK1)											
Pentachlorophenol	8/20/20 9:38	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*5.17*		*"*	*10.0*		*51.7*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.75*		*"*	*10.0*		*57.5*	*12.7-100*			
Surrogate: Phenol-d5		*5.86*		*"*	*10.0*		*58.6*	*16.1-100*			
LCS (0H18037-BS1)											
Pentachlorophenol	8/20/20 15:50	8.12	1.00	ug/L	10.0		81.2	10-144			
Surrogate: 2,4,6-Tribromophenol		*8.26*		*"*	*10.0*		*82.6*	*16.2-100*			
Surrogate: 2-Fluorophenol		*6.91*		*"*	*10.0*		*69.1*	*12.7-100*			
Surrogate: Phenol-d5		*7.43*		*"*	*10.0*		*74.3*	*16.1-100*			
LCS Dup (0H18037-BSD1)											
Pentachlorophenol	8/20/20 16:26	6.36	1.00	ug/L	10.0		63.6	10-144	24.3	40	
Surrogate: 2,4,6-Tribromophenol		*7.86*		*"*	*10.0*		*78.6*	*16.2-100*			
Surrogate: 2-Fluorophenol		*6.73*		*"*	*10.0*		*67.3*	*12.7-100*			
Surrogate: Phenol-d5		*7.30*		*"*	*10.0*		*73.0*	*16.1-100*			
Duplicate (0H18037-DUP1)			**Source: 2008259-03**								
Pentachlorophenol	8/20/20 17:40	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*7.94*		*"*	*10.2*		*77.8*	*16.2-100*			
Surrogate: 2-Fluorophenol		*3.18*		*"*	*10.2*		*31.2*	*12.7-100*			
Surrogate: Phenol-d5		*2.05*		*"*	*10.2*		*20.1*	*16.1-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H19061 - EPA 5030B											
Blank (0H19061-BLK1)											
Benzene	8/17/20 10:25	ND	5.00	ug/L							
Ethylbenzene	8/17/20 10:25	ND	5.00	"							
Surrogate: Dibromofluoromethane		*53.1*		"	*50.0*		*106*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.7*		"	*50.0*		*99.4*	*70-130*			
Surrogate: Toluene-d8		*49.5*		"	*50.0*		*98.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.9*		"	*50.0*		*97.8*	*70-130*			
LCS (0H19061-BS1)											
Benzene	8/17/20 10:52	20.9	5.00	ug/L	20.0		104	70.8-137			
Ethylbenzene	8/17/20 10:52	22.2	5.00	"	20.0		111	73.6-139			
Surrogate: Dibromofluoromethane		*50.1*		"	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*45.8*		"	*50.0*		*91.5*	*70-130*			
Surrogate: Toluene-d8		*50.4*		"	*50.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.3*		"	*50.0*		*98.6*	*70-130*			
LCS Dup (0H19061-BSD1)											
Benzene	8/17/20 11:18	21.5	5.00	ug/L	20.0		108	70.8-137	2.92	30	
Ethylbenzene	8/17/20 11:18	22.7	5.00	"	20.0		114	73.6-139	2.32	30	
Surrogate: Dibromofluoromethane		*50.4*		"	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*45.7*		"	*50.0*		*91.4*	*70-130*			
Surrogate: Toluene-d8		*50.0*		"	*50.0*		*99.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.9*		"	*50.0*		*97.8*	*70-130*			
Duplicate (0H19061-DUP1)			**Source: 2008233-04**								
Benzene	8/17/20 15:48	ND	5.00	ug/L		ND				35	
Ethylbenzene	8/17/20 15:48	ND	5.00	"		ND				35	
Surrogate: Dibromofluoromethane		*53.5*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.3*		"	*50.0*		*98.6*	*70-130*			
Surrogate: Toluene-d8		*49.1*		"	*50.0*		*98.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.0*		"	*50.0*		*97.9*	*70-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/02/2020 13:48

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2021*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2021*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	09/02/2020 13:48

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Kristy L. Pierce	KLP
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 200823

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Project Name: MOBILE CFI 3RD QTR 2020
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
_x_Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE NITRATE AMMONIA	METALS	BNA	VOA
Preservative:									
T-1	8-12-20/8:45	W	7	G	X	X	X	X	X	X
RC-3	8-12-20/9:10	W	7	G	X	X	X	X	X	X
RW-3A	8-12-20/9:30	W	9	G	X	X	X	X	X	X
RW-4	8-12-20/9:50	W	9	G	X	X	X	X	X	X
RW-5	8/12-20/10:10/10	W	9	G	X	X	X	X	X	X
RC-2	8-12-20/13:00	W	7	G	X	X	X	X	X	X
TBV#6492	8-12-20/8:45	W	2	G						X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

All Temps are Corrected Values

Received on Ice? Y N Thermometer# 4 Cooler # _____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample ____ Blank X Cooler _____

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	8-12-20	15:30
Received by	Sarah Tomele	Sarah Tomele	MMM	8/12/2020	1530
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 0.6c
~~client cooler #2~~ (8)
#1143 0.5°c

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

September 01, 2020

Ethan Allen

Work Order # : 2008259

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 08/13/2020 15:51. If you have any questions concerning this report, please feel free to contact the office.

Clyde Woodward

President
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-1A	2008259-01	Water	08/13/2020 10:15	*Jeff Gonsoulin*	08/13/2020 15:51
Mobile/RC-1	2008259-02	Water	08/13/2020 10:45	*Jeff Gonsoulin*	08/13/2020 15:51
Mobile/RW-2	2008259-03	Water	08/13/2020 11:00	*Jeff Gonsoulin*	08/13/2020 15:51
Mobile/E-1	2008259-04	Water	08/13/2020 14:30	*Jeff Gonsoulin*	08/13/2020 15:51
Trip Blank TBV#6513	2008259-05	Water	08/13/2020 10:15	*Micro Methods*	08/13/2020 15:51

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Sample Receipt Conditions

Date/Time Received: 8/13/2020 3:51:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 8/14/2020 8:32:00AM
Cooler ID: #1143

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Cooler ID: client cooler #1

Receipt Temperature: 1.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	09/01/2020 16:05

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile vials checked at receiving for air bubbles. No visible air bubbles greater than 6mm found. All pH samples received out of hold time.- SET

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 09/01/2020 16:05

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5

2008259-04[Mobile/E-1]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

0H18037-BLK1, 0H18037-DUP1, 2008259-04[Mobile/E-1]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

0H18037-BS1, 0H18037-BSD1

CC-04 CCV exceeds acceptance limits. Results reported are estimated values.

Dibenz (a,h) anthracene

0H18037-BSD1

L1 LCS and/or LCSD Recovery Limit exceeded.

Dibenz (a,h) anthracene

0H18037-BSD1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

0H17037-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

2-Fluorobiphenyl

0H17037-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	09/01/2020 16:05

Ammonia as N-Lachat 10-107-06-1-I

Qualifiers:

M2 MS/MSD Recovery below acceptable limit.

Ammonia as N

0H14009-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

0H17050-DUP1, 2008259-01[Mobile/RC-1A], 2008259-02[Mobile/RC-1], 2008259-03[Mobile/RW-2], 2008259-04[Mobile/E-1]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RC-1A

2008259-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**116**	2.00	mg/L	4.0	0H17023	DLW	08/14/2020 12:12	08/14/2020 17:56	SM 4110B 2011	
Nitrate as N	ND	2.00	"	"	"	DLW	"	"	"	
Ammonia as N	**1.04**	0.21	"	1.0	0H14009	AKL	08/14/2020 11:46	08/14/2020 14:03	Lachat 10-107-06-1-I	
pH	**6.38**		pH Units	"	0H17050	GMS	08/17/2020 14:30	08/17/2020 15:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**630**		umhos/cm @25.0 C	"	0H17054	GMS	08/17/2020 15:10	08/17/2020 15:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 20:31	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**431**	113	ug/L	10.0	0H17037	CRLV	08/17/2020 10:30	08/26/2020 17:22	EPA 8270D	
Acenaphthylene	ND	11.3	"	1.0	"	CRLV	"	08/26/2020 18:29	"	
Anthracene	ND	11.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	11.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	11.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	11.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	11.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	11.3	"	"	"	CRLV	"	"	"	
Carbazole	**806**	113	"	10.0	"	CRLV	"	08/26/2020 17:22	"	
4-Chloro-3-methylphenol	ND	113	"	"	"	CRLV	"	"	"	
Chrysene	ND	11.3	"	1.0	"	CRLV	"	08/26/2020 18:29	"	
Dibenz (a,h) anthracene	ND	11.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**176**	113	"	10.0	"	CRLV	"	08/26/2020 17:22	"	
2,4-Dimethylphenol	ND	113	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	11.3	"	1.0	"	CRLV	"	08/26/2020 18:29	"	
Di-n-octyl phthalate	ND	11.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	11.3	"	"	"	CRLV	"	"	"	
Fluorene	**177**	113	"	10.0	"	CRLV	"	08/26/2020 17:22	"	
Indeno (1,2,3-cd) pyrene	ND	11.3	"	1.0	"	CRLV	"	08/26/2020 18:29	"	
2-Methylnaphthalene	ND	113	"	10.0	"	CRLV	"	08/26/2020 17:22	"	
2-Methylphenol	ND	11.3	"	1.0	"	CRLV	"	08/26/2020 18:29	"	
3 & 4-Methylphenol	ND	11.3	"	"	"	CRLV	"	"	"	
Naphthalene	**3290**	1130	"	100.0	"	CRLV	"	08/27/2020 16:58	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RC-1A

2008259-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Pentachlorophenol	ND	11.3	ug/L	1.0	0H17037	CRLV	08/17/2020 10:30	08/26/2020 18:29	"	
Phenanthrene	**114**	11.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	11.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	11.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	116	*103 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	50.1	*88.7 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	69.7	*61.7 %*	*10-100*	"	CRLV	"	*08/26/2020 17:22*	"	
Nitrobenzene-d5	31.8	*56.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	106	*93.7 %*	*10-105*	"	CRLV	"	*08/26/2020 18:29*	"	
Terphenyl-dl4	38.4	*68.0 %*	*10-110*	"	CRLV	"	*08/26/2020 17:22*	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H19063	SAD	08/17/2020 08:00	08/17/2020 12:27	EPA 8260D	
Ethylbenzene	**23.6**	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	47.7	*95.4 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.7	*101 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	56.2	*112 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	45.2	*90.4 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RC-1

2008259-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**232**	5.00	mg/L	10.0	0H17023	DLW	08/14/2020 12:32	08/14/2020 18:16	SM 4110B 2011	
Nitrate as N	ND	5.00	"	"	"	DLW	"	"	"	
Ammonia as N	**6.47**	0.21	"	1.0	0H14009	AKL	08/14/2020 11:46	08/14/2020 14:08	Lachat 10-107-06-1-I	
pH	**6.55**		pH Units	"	0H17050	GMS	08/17/2020 14:30	08/17/2020 15:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1330**		umhos/cm @25.0 C	"	0H17054	GMS	08/17/2020 15:10	08/17/2020 15:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	ND	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 21:04	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RC-1

2008259-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**437**	108	ug/L	10.0	0H17037	CRLV	08/17/2020 10:30	08/26/2020 17:55	EPA 8270D	
Acenaphthylene	ND	10.8	"	1.0	"	CRLV	"	08/26/2020 19:04	"	
Anthracene	**23.4**	10.8	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.8	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.8	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.8	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.8	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**34.3**	10.8	"	"	"	CRLV	"	"	"	
Carbazole	**520**	108	"	10.0	"	CRLV	"	08/26/2020 17:55	"	
4-Chloro-3-methylphenol	**26.8**	10.8	"	1.0	"	CRLV	"	08/26/2020 19:04	"	
Chrysene	ND	10.8	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.8	"	"	"	CRLV	"	"	"	
Dibenzofuran	**188**	108	"	10.0	"	CRLV	"	08/26/2020 17:55	"	
2,4-Dimethylphenol	**595**	108	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.8	"	1.0	"	CRLV	"	08/26/2020 19:04	"	
Di-n-octyl phthalate	ND	10.8	"	"	"	CRLV	"	"	"	
Fluoranthene	**38.5**	10.8	"	"	"	CRLV	"	"	"	
Fluorene	**218**	108	"	10.0	"	CRLV	"	08/26/2020 17:55	"	
Indeno (1,2,3-cd) pyrene	ND	10.8	"	1.0	"	CRLV	"	08/26/2020 19:04	"	
2-Methylnaphthalene	**356**	108	"	10.0	"	CRLV	"	08/26/2020 17:55	"	
2-Methylphenol	ND	10.8	"	1.0	"	CRLV	"	08/26/2020 19:04	"	
3 & 4-Methylphenol	**82.9**	10.8	"	"	"	CRLV	"	"	"	
Naphthalene	**10400**	1080	"	100.0	"	CRLV	"	08/27/2020 17:32	"	
Pentachlorophenol	ND	10.8	"	1.0	"	CRLV	"	08/26/2020 19:04	"	
Phenanthrene	**237**	108	"	10.0	"	CRLV	"	08/26/2020 17:55	"	
Pyrene	**18.9**	10.8	"	1.0	"	CRLV	"	08/26/2020 19:04	"	
2,4,6-Trichlorophenol	ND	10.8	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	124	*115 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	40.9	*76.0 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	72.7	*67.6 %*	*10-100*	"	CRLV	"	*08/26/2020 17:55*	"	
Nitrobenzene-d5	28.2	*52.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	96.9	*90.1 %*	*10-105*	"	CRLV	"	*08/26/2020 19:04*	"	
Terphenyl-dl4	29.1	*54.2 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RC-1

2008259-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**10.2**	5.00	ug/L	1.0	0H19063	SAD	08/17/2020 08:00	08/17/2020 12:51	EPA 8260D	
Ethylbenzene	**44.3**	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	46.9	*93.7 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	49.0	*97.9 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	56.1	*112 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	47.7	*95.4 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RW-2

2008259-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**0.43**	0.06	ug/L	1.0	0H18032	CRLV	08/18/2020 08:14	08/18/2020 17:30	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0737	*35.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.0842	*40.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.126	*60.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**46.2**	1.00	mg/L	2.0	0H17023	DLW	08/14/2020 12:52	08/14/2020 18:36	SM 4110B 2011	
Nitrate as N	ND	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**0.59**	0.21	"	1.0	0H14009	AKL	08/14/2020 11:46	08/14/2020 14:09	Lachat 10-107-06-1-I	
pH	**6.36**		pH Units	"	0H17050	GMS	08/17/2020 14:30	08/17/2020 15:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**349**		umhos/cm @25.0 C	"	0H17054	GMS	08/17/2020 15:10	08/17/2020 15:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.00289**	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 21:12	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00198**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RW-2

2008259-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**191**	103	ug/L	10.0	0H18037	CRLV	08/18/2020 10:34	08/21/2020 12:07	EPA 8270D	
Acenaphthylene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 17:03	"	
Anthracene	**14.3**	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	08/21/2020 13:21	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	08/20/2020 17:03	"	
Carbazole	**84.2**	51.3	"	10.0	"	CRLV	"	08/21/2020 12:07	"	
4-Chloro-3-methylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 17:03	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	08/21/2020 13:21	"	
Dibenzofuran	**103**	103	"	10.0	"	CRLV	"	08/21/2020 12:07	"	
2,4-Dimethylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 17:03	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	08/21/2020 13:21	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**34.9**	30.8	"	10.0	"	CRLV	"	08/21/2020 12:07	"	
Fluorene	**105**	103	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	1.0	"	CRLV	"	08/21/2020 13:21	"	
2-Methylnaphthalene	**52.9**	51.3	"	10.0	"	CRLV	"	08/21/2020 12:07	"	
2-Methylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 17:03	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**583**	103	"	10.0	"	CRLV	"	08/25/2020 21:25	"	
Phenanthrene	**118**	103	"	"	"	CRLV	"	08/21/2020 12:07	"	
Pyrene	**10.5**	10.3	"	1.0	"	CRLV	"	08/20/2020 17:03	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	8.11	*79.1 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.73	*53.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.84	*27.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.18	*42.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.76	*17.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	1.73	*33.8 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	0H18037	CRLV	"	08/20/2020 17:03	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/RW-2

2008259-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	8.11	*79.1 %*	*16.2-100*		*0H18037*	CRLV	*08/18/2020 10:34*	"	"	
2-Fluorophenol	2.84	*27.7 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	1.76	*17.2 %*	*16.1-100*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H19063	SAD	08/17/2020 08:00	08/17/2020 13:15	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	47.5	*95.0 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	51.9	*104 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	54.1	*108 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	48.3	*96.7 %*	*70-130*		"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/E-1

2008259-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**540**	10.0	mg/L	20.0	0H17023	DLW	08/14/2020 13:12	08/14/2020 19:16	SM 4110B 2011	
Nitrate as N	ND	10.0	"	"	"	DLW	"	"	"	
Ammonia as N	**11.4**	0.21	"	1.0	0H14009	AKL	08/14/2020 11:46	08/14/2020 14:10	Lachat 10-107-06-1-I	
pH	**6.67**		pH Units	"	0H17050	GMS	08/17/2020 14:30	08/17/2020 15:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**2320**		umhos/cm @25.0 C	"	0H17054	GMS	08/17/2020 15:10	08/17/2020 15:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [HHe]	**0.0292**	0.00200	mg/L	1.0	0H17026	ABT	08/17/2020 09:00	08/18/2020 22:00	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00779**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00513**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/E-1

2008259-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**885**	515	ug/L	50.0	0H18037	CRLV	08/18/2020 10:34	08/21/2020 13:58	EPA 8270D	
Acenaphthylene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	
Anthracene	**56.2**	51.5	"	10.0	"	CRLV	"	08/21/2020 15:12	"	
Benzo (a) anthracene	**51.1**	41.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**26.5**	25.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	
Benzo (a) pyrene	**19.0**	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**64.3**	51.5	"	10.0	"	CRLV	"	08/21/2020 15:12	"	
4-Chloro-3-methylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	
Chrysene	**43.0**	41.2	"	10.0	"	CRLV	"	08/21/2020 15:12	"	
Dibenz (a,h) anthracene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	CC-01
Dibenzofuran	**470**	464	"	50.0	"	CRLV	"	08/21/2020 13:58	"	
2,4-Dimethylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**519**	515	"	50.0	"	CRLV	"	08/21/2020 13:58	"	
Fluorene	**470**	464	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	CC-01
2-Methylnaphthalene	**958**	515	"	50.0	"	CRLV	"	08/21/2020 13:58	"	
2-Methylphenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**496**	464	"	50.0	"	CRLV	"	08/21/2020 13:58	"	
Phenanthrene	**975**	515	"	"	"	CRLV	"	"	"	
Pyrene	**171**	103	"	10.0	"	CRLV	"	08/21/2020 15:12	"	
2,4,6-Trichlorophenol	ND	10.3	"	1.0	"	CRLV	"	08/20/2020 18:16	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.61	*54.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.80	*35.0 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.52	*24.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.06	*40.0 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.65	*16.0 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	1.60	*31.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	0H18037	CRLV	"	08/20/2020 18:16	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Mobile/E-1

2008259-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	5.61	*54.4 %*	*16.2-100*		*0H18037*	CRLV	*08/18/2020 10:34*	"	"	
2-Fluorophenol	2.52	*24.4 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	1.65	*16.0 %*	*16.1-100*		"	CRLV	"	"	"	*SR05*
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**46.5**	5.00	ug/L	1.0	0H19063	SAD	08/17/2020 08:00	08/17/2020 13:39	EPA 8260D	
Ethylbenzene	**118**	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	47.1	*94.1 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.4	*101 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	54.6	*109 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	47.5	*95.0 %*	*70-130*		"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Trip Blank TBV#6513

2008259-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	0H19063	SAD	08/17/2020 08:00	08/17/2020 14:04	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	47.4	*94.8 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.3	*101 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	53.6	*107 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	48.2	*96.4 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
Blank (0H18032-BLK1)											
Benzo (a) pyrene	8/18/20 12:40	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.140*		*"*	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		*"*	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.210*		*"*	*0.200*		*105*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
LCS (0H18032-BS1)											
Benzo (a) pyrene	8/18/20 13:21	0.27	0.06	ug/L	0.200		135	10-149			
Surrogate: 2-Fluorobiphenyl		*0.140*		*"*	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.150*		*"*	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.210*		*"*	*0.200*		*105*	*11.3-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0H18032-BSD1)											
Benzo (a) pyrene	8/18/20 14:03	0.29	0.06	ug/L	0.200		145	10-149	7.14	40	
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		"	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.210*		"	*0.200*		*105*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18032 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0H18032-DUP1)			**Source: 2008233-04**								
Benzo (a) pyrene	8/18/20 16:07	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.113*		*"*	*0.206*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.165*		*"*	*0.206*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.124*		*"*	*0.206*		*60.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H14009 - Default Prep GenChem											
Blank (0H14009-BLK1)											
Ammonia as N	8/14/20 13:32	ND	0.21	mg/L							
LCS (0H14009-BS1)											
Ammonia as N	8/14/20 13:36	4.76	0.21	mg/L	5.00		95.2	90-110			
LCS Dup (0H14009-BSD1)											
Ammonia as N	8/14/20 13:39	4.84	0.21	mg/L	5.00		96.8	90-110	1.67	10	
Matrix Spike (0H14009-MS1)			**Source: 2008271-02**								
Ammonia as N	8/14/20 14:19	5.00	0.21	mg/L	5.00	0.49	90.1	90-110			
Matrix Spike Dup (0H14009-MSD1)			**Source: 2008271-02**								
Ammonia as N	8/14/20 14:21	4.86	0.21	mg/L	5.00	0.49	87.3	90-110	2.84	10	M2
Batch 0H17023 - Default Prep GenChem											
Blank (0H17023-BLK1)											
Chloride	8/14/20 11:52	ND	0.500	mg/L							
Nitrate as N	8/14/20 11:52	ND	0.500	"							
LCS (0H17023-BS1)											
Chloride	8/14/20 11:12	2.92	0.500	mg/L	3.00		97.4	81.8-111			
Nitrate as N	8/14/20 11:12	2.21	0.500	"	2.26		97.9	81.1-113			
LCS Dup (0H17023-BSD1)											
Chloride	8/14/20 11:32	2.77	0.500	mg/L	3.00		92.2	81.8-111	5.52	20	
Nitrate as N	8/14/20 11:32	2.21	0.500	"	2.26		98.0	81.1-113	0.0904	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17023 - Default Prep GenChem											
Duplicate (0H17023-DUP1)			**Source: 2008271-02**								
Chloride	8/14/20 16:57	61.1	0.500	mg/L		60.0			1.73	20	
Nitrate as N	8/14/20 16:57	3.56	2.00	"		3.51			1.47	20	
Duplicate (0H17023-DUP2)			**Source: 2008259-03**								
Chloride	8/14/20 18:56	45.9	1.00	mg/L		46.2			0.564	20	
Matrix Spike (0H17023-MS1)			**Source: 2008271-02**								
Chloride	8/14/20 17:17	236	2.00	mg/L		60.0		75.3-124			
Nitrate as N	8/14/20 17:17	5.39		"	4.52	0.877	99.9	58.5-131			
Matrix Spike Dup (0H17023-MSD1)			**Source: 2008271-02**								
Chloride	8/14/20 17:37	235	2.00	mg/L		60.0		75.3-124	0.305	20	
Nitrate as N	8/14/20 17:37	5.38		"	4.52	0.877	99.7	58.5-131	0.148	20	
Batch 0H17050 - Default Prep GenChem											
Duplicate (0H17050-DUP1)			**Source: 2008253-01**								
pH	8/17/20 15:00	6.87		pH Units		6.85			0.292	5	HT-02
Batch 0H17054 - Default Prep GenChem											
LCS (0H17054-BS1)											
Specific Conductance (EC)	8/17/20 15:25	1420		uS/cm	1410		101	90-110			
Duplicate (0H17054-DUP1)			**Source: 2008259-01**								
Specific Conductance (EC)	8/17/20 15:25	635		umhos/cm @25.0 C		630			0.791	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17026 - EPA 200.2 DCN 1017 Rev 9											
Blank (0H17026-BLK1)											
Arsenic [HHe]	8/18/20 12:24	ND	0.00200	mg/L							
Chromium [He]	8/18/20 12:24	ND	0.00100	"							
Lead [He]	8/18/20 12:24	ND	0.00100	"							
Nickel [He]	8/18/20 12:24	ND	0.0400	"							
LCS (0H17026-BS1)											
Arsenic [HHe]	8/18/20 12:32	0.097	0.00200	mg/L	0.100		96.9	85-115			
Chromium [He]	8/18/20 12:32	0.097	0.00100	"	0.100		96.7	85-115			
Lead [He]	8/18/20 12:32	0.094	0.00100	"	0.100		93.9	85-115			
Nickel [He]	8/18/20 12:32	0.098	0.0400	"	0.100		97.6	85-115			
LCS Dup (0H17026-BSD1)											
Arsenic [HHe]	8/18/20 12:40	0.099	0.00200	mg/L	0.100		98.9	85-115	2.06	20	
Chromium [He]	8/18/20 12:40	0.098	0.00100	"	0.100		97.9	85-115	1.17	20	
Lead [He]	8/18/20 12:40	0.095	0.00100	"	0.100		94.6	85-115	0.727	20	
Nickel [He]	8/18/20 12:40	0.099	0.0400	"	0.100		98.7	85-115	1.18	20	
Matrix Spike (0H17026-MS1)			**Source: 2008259-01**								
Arsenic [HHe]	8/18/20 20:39	0.098	0.00200	mg/L	0.100	0.0004	97.9	70-130			
Chromium [He]	8/18/20 20:39	0.093	0.00100	"	0.100	ND	93.3	70-130			
Lead [He]	8/18/20 20:39	0.098	0.00100	"	0.100	ND	97.9	70-130			
Nickel [He]	8/18/20 20:39	0.091	0.0400	"	0.100	0.0003	90.9	70-130			
Matrix Spike Dup (0H17026-MSD1)			**Source: 2008259-01**								
Arsenic [HHe]	8/18/20 20:55	0.098	0.00200	mg/L	0.100	0.0004	97.6	70-130	0.301	20	
Chromium [He]	8/18/20 20:55	0.094	0.00100	"	0.100	ND	94.0	70-130	0.811	20	
Lead [He]	8/18/20 20:55	0.098	0.00100	"	0.100	ND	98.2	70-130	0.266	20	
Nickel [He]	8/18/20 20:55	0.092	0.0400	"	0.100	0.0003	92.0	70-130	1.17	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
Blank (0H17037-BLK1)											
Acenaphthene	8/26/20 15:40	ND	10.0	ug/L							
Acenaphthylene	8/26/20 15:40	ND	10.0	"							
Anthracene	8/26/20 15:40	ND	10.0	"							
Benzo (a) anthracene	8/26/20 15:40	ND	10.0	"							
Benzo (b) fluoranthene	8/26/20 15:40	ND	10.0	"							
Benzo (k) fluoranthene	8/26/20 15:40	ND	10.0	"							
Benzo (a) pyrene	8/26/20 15:40	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	8/26/20 15:40	ND	10.0	"							
Carbazole	8/26/20 15:40	ND	10.0	"							
4-Chloro-3-methylphenol	8/26/20 15:40	ND	10.0	"							
Chrysene	8/26/20 15:40	ND	10.0	"							
Dibenz (a,h) anthracene	8/26/20 15:40	ND	10.0	"							
Dibenzofuran	8/26/20 15:40	ND	10.0	"							
2,4-Dimethylphenol	8/26/20 15:40	ND	10.0	"							
2,4-Dinitrophenol	8/26/20 15:40	ND	10.0	"							
Di-n-octyl phthalate	8/26/20 15:40	ND	10.0	"							
Fluoranthene	8/26/20 15:40	ND	10.0	"							
Fluorene	8/26/20 15:40	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	8/26/20 15:40	ND	10.0	"							
2-Methylnaphthalene	8/26/20 15:40	ND	10.0	"							
2-Methylphenol	8/26/20 15:40	ND	10.0	"							
3 & 4-Methylphenol	8/26/20 15:40	ND	10.0	"							
Naphthalene	8/26/20 15:40	ND	10.0	"							
Pentachlorophenol	8/26/20 15:40	ND	10.0	"							
Phenanthrene	8/26/20 15:40	ND	10.0	"							
Pyrene	8/26/20 15:40	ND	10.0	"							
2,4,6-Trichlorophenol	8/26/20 15:40	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*76.5*		*"*	*100*		*76.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*34.7*		*"*	*50.0*		*69.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*60.1*		*"*	*100*		*60.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*30.7*		*"*	*50.0*		*61.3*	*10-103*			
Surrogate: Phenol-d5		*60.2*		*"*	*100*		*60.2*	*10-105*			
Surrogate: Terphenyl-dl4		*39.1*		*"*	*50.0*		*78.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
LCS (0H17037-BS1)											
Acenaphthene	8/26/20 16:14	84.5	20.0	ug/L	100		84.5	45.5-108			
Acenaphthylene	8/26/20 16:14	87.6	20.0	"	100		87.6	46.4-114			
Anthracene	8/26/20 16:14	82.4	20.0	"	100		82.4	47-106			
Benzo (a) anthracene	8/26/20 16:14	80.6	20.0	"	100		80.6	50.8-105			
Benzo (b) fluoranthene	8/26/20 16:14	77.5	20.0	"	100		77.5	47-109			
Benzo (k) fluoranthene	8/26/20 16:14	78.2	20.0	"	100		78.2	44-111			
Benzo (a) pyrene	8/26/20 16:14	73.8	20.0	"	100		73.8	52.9-103			
Bis(2-ethylhexyl)phthalate	8/26/20 16:14	83.9	20.0	"	100		83.9	36.4-121			
Carbazole	8/26/20 16:14	94.2	20.0	"	100		94.2	25-172			
4-Chloro-3-methylphenol	8/26/20 16:14	86.6	20.0	"	100		86.6	46.4-108			
Chrysene	8/26/20 16:14	82.2	20.0	"	100		82.2	46.6-100			
Dibenz (a,h) anthracene	8/26/20 16:14	68.8	20.0	"	100		68.8	46.7-102			
Dibenzofuran	8/26/20 16:14	82.9	20.0	"	100		82.9	45.8-105			
2,4-Dimethylphenol	8/26/20 16:14	72.2	20.0	"	100		72.2	41.6-101			
2,4-Dinitrophenol	8/26/20 16:14	43.1	20.0	"	100		43.1	10-131			
Di-n-octyl phthalate	8/26/20 16:14	80.8	20.0	"	100		80.8	38.6-123			
Fluoranthene	8/26/20 16:14	84.0	20.0	"	100		84.0	44.9-114			
Fluorene	8/26/20 16:14	91.5	20.0	"	100		91.5	45.6-107			
Indeno (1,2,3-cd) pyrene	8/26/20 16:14	68.2	20.0	"	100		68.2	45.8-104			
2-Methylnaphthalene	8/26/20 16:14	83.2	20.0	"	100		83.2	44.2-104			
2-Methylphenol	8/26/20 16:14	73.6	20.0	"	100		73.6	44.5-103			
3 & 4-Methylphenol	8/26/20 16:14	164	20.0	"	200		82.1	11-149			
Naphthalene	8/26/20 16:14	79.2	20.0	"	100		79.2	45-100			
Pentachlorophenol	8/26/20 16:14	44.5	20.0	"	100		44.5	17.4-124			
Phenanthrene	8/26/20 16:14	81.1	20.0	"	100		81.1	49.2-107			
Pyrene	8/26/20 16:14	88.0	20.0	"	100		88.0	31.7-124			
2,4,6-Trichlorophenol	8/26/20 16:14	78.9	20.0	"	100		78.9	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*76.6*		*"*	*100*		*76.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*33.1*		*"*	*50.0*		*66.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*57.9*		*"*	*100*		*57.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*28.2*		*"*	*50.0*		*56.5*	*10-103*			
Surrogate: Phenol-d5		*68.1*		*"*	*100*		*68.1*	*10-105*			
Surrogate: Terphenyl-dl4		*36.6*		*"*	*50.0*		*73.2*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (0H17037-BSD1)											
Acenaphthene	8/26/20 16:48	83.1	20.0	ug/L	100		83.1	45.5-108	1.67	40	
Acenaphthylene	8/26/20 16:48	85.4	20.0	"	100		85.4	46.4-114	2.50	40	
Anthracene	8/26/20 16:48	81.2	20.0	"	100		81.2	47-106	1.52	40	
Benzo (a) anthracene	8/26/20 16:48	76.9	20.0	"	100		76.9	50.8-105	4.67	40	
Benzo (b) fluoranthene	8/26/20 16:48	78.4	20.0	"	100		78.4	47-109	1.18	40	
Benzo (k) fluoranthene	8/26/20 16:48	80.5	20.0	"	100		80.5	44-111	2.92	40	
Benzo (a) pyrene	8/26/20 16:48	73.4	20.0	"	100		73.4	52.9-103	0.571	40	
Bis(2-ethylhexyl)phthalate	8/26/20 16:48	82.2	20.0	"	100		82.2	36.4-121	2.10	40	
Carbazole	8/26/20 16:48	95.7	20.0	"	100		95.7	25-172	1.56	40	
4-Chloro-3-methylphenol	8/26/20 16:48	89.5	20.0	"	100		89.5	46.4-108	3.25	40	
Chrysene	8/26/20 16:48	77.8	20.0	"	100		77.8	46.6-100	5.50	40	
Dibenz (a,h) anthracene	8/26/20 16:48	71.2	20.0	"	100		71.2	46.7-102	3.49	40	
Dibenzofuran	8/26/20 16:48	85.2	20.0	"	100		85.2	45.8-105	2.76	40	
2,4-Dimethylphenol	8/26/20 16:48	83.0	20.0	"	100		83.0	41.6-101	14.0	40	
2,4-Dinitrophenol	8/26/20 16:48	44.6	20.0	"	100		44.6	10-131	3.37	40	
Di-n-octyl phthalate	8/26/20 16:48	82.3	20.0	"	100		82.3	38.6-123	1.81	40	
Fluoranthene	8/26/20 16:48	80.8	20.0	"	100		80.8	44.9-114	3.83	40	
Fluorene	8/26/20 16:48	89.0	20.0	"	100		89.0	45.6-107	2.73	40	
Indeno (1,2,3-cd) pyrene	8/26/20 16:48	71.7	20.0	"	100		71.7	45.8-104	5.12	40	
2-Methylnaphthalene	8/26/20 16:48	82.0	20.0	"	100		82.0	44.2-104	1.36	40	
2-Methylphenol	8/26/20 16:48	72.1	20.0	"	100		72.1	44.5-103	2.00	40	
3 & 4-Methylphenol	8/26/20 16:48	163	20.0	"	200		81.6	11-149	0.611	40	
Naphthalene	8/26/20 16:48	77.3	20.0	"	100		77.3	45-100	2.35	40	
Pentachlorophenol	8/26/20 16:48	52.0	20.0	"	100		52.0	17.4-124	15.4	40	
Phenanthrene	8/26/20 16:48	78.9	20.0	"	100		78.9	49.2-107	2.80	40	
Pyrene	8/26/20 16:48	83.0	20.0	"	100		83.0	31.7-124	5.85	40	
2,4,6-Trichlorophenol	8/26/20 16:48	78.6	20.0	"	100		78.6	41.7-110	0.432	40	
Surrogate: 2,4,6-Tribromophenol		*76.0*		*"*	*100*		*76.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*32.7*		*"*	*50.0*		*65.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*57.3*		*"*	*100*		*57.3*	*10-100*			
Surrogate: Nitrobenzene-d5		*38.2*		*"*	*50.0*		*76.5*	*10-103*			
Surrogate: Phenol-d5		*68.2*		*"*	*100*		*68.2*	*10-105*			
Surrogate: Terphenyl-dl4		*34.1*		*"*	*50.0*		*68.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H17037 - EPA 3520C DCN 4001 Rev 11											
Duplicate (0H17037-DUP1)			**Source: 2008233-06**								
Acenaphthene	8/24/20 19:10	54.1	11.4	ug/L		45.8			16.7	45	
Acenaphthylene	8/24/20 19:10	ND	11.4	"		ND				45	
Anthracene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (a) anthracene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (b) fluoranthene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (k) fluoranthene	8/24/20 19:10	ND	11.4	"		ND				45	
Benzo (a) pyrene	8/24/20 19:10	ND	11.4	"		ND				45	
Bis(2-ethylhexyl)phthalate	8/24/20 19:10	ND	11.4	"		ND				45	
Carbazole	8/24/20 19:10	ND	11.4	"		ND				45	
4-Chloro-3-methylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
Chrysene	8/24/20 19:10	ND	11.4	"		ND				45	
Dibenz (a,h) anthracene	8/24/20 19:10	ND	11.4	"		ND				45	
Dibenzofuran	8/24/20 19:10	ND	11.4	"		ND				45	
2,4-Dimethylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
2,4-Dinitrophenol	8/24/20 19:10	ND	11.4	"		ND				45	
Di-n-octyl phthalate	8/24/20 19:10	ND	11.4	"		ND				45	
Fluoranthene	8/24/20 19:10	ND	11.4	"		ND				45	
Fluorene	8/24/20 19:10	ND	11.4	"		ND				45	
Indeno (1,2,3-cd) pyrene	8/24/20 19:10	ND	11.4	"		ND				45	
2-Methylnaphthalene	8/24/20 19:10	ND	11.4	"		ND				45	
2-Methylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
3 & 4-Methylphenol	8/24/20 19:10	ND	11.4	"		ND				45	
Naphthalene	8/24/20 19:10	ND	11.4	"		ND				45	
Pentachlorophenol	8/24/20 19:10	ND	11.4	"		ND				45	
Phenanthrene	8/24/20 19:10	ND	11.4	"		ND				45	
Pyrene	8/24/20 19:10	ND	11.4	"		ND				45	
2,4,6-Trichlorophenol	8/24/20 19:10	ND	11.4	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*141*		*"*	*114*		*124*	*13.3-115*			*SR05*
Surrogate: 2-Fluorobiphenyl		*63.6*		*"*	*56.8*		*112*	*14.7-104*			*SR06*
Surrogate: 2-Fluorophenol		*104*		*"*	*114*		*91.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*49.0*		*"*	*56.8*		*86.3*	*10-103*			
Surrogate: Phenol-d5		*109*		*"*	*114*		*95.8*	*10-105*			
Surrogate: Terphenyl-dl4		*43.9*		*"*	*56.8*		*77.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
Blank (0H18037-BLK1)											
Acenaphthene	8/20/20 9:38	ND	10.0	ug/L							
Acenaphthylene	8/20/20 9:38	ND	10.0	"							
Anthracene	8/20/20 9:38	ND	10.0	"							
Benzo (a) anthracene	8/20/20 9:38	ND	10.0	"							
Benzo (b) fluoranthene	8/20/20 9:38	ND	10.0	"							
Benzo (k) fluoranthene	8/20/20 9:38	ND	10.0	"							
Benzo (a) pyrene	8/20/20 9:38	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	8/20/20 9:38	ND	10.0	"							
Carbazole	8/20/20 9:38	ND	10.0	"							
4-Chloro-3-methylphenol	8/20/20 9:38	ND	10.0	"							
Chrysene	8/20/20 9:38	ND	10.0	"							
Dibenz (a,h) anthracene	8/20/20 9:38	ND	10.0	"							CC-01
Dibenzofuran	8/20/20 9:38	ND	10.0	"							
2,4-Dimethylphenol	8/20/20 9:38	ND	10.0	"							
2,4-Dinitrophenol	8/20/20 9:38	ND	10.0	"							CC-01
Di-n-octyl phthalate	8/20/20 9:38	ND	10.0	"							
Fluoranthene	8/20/20 9:38	ND	10.0	"							
Fluorene	8/20/20 9:38	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	8/20/20 9:38	ND	10.0	"							CC-01
2-Methylnaphthalene	8/20/20 9:38	ND	10.0	"							
2-Methylphenol	8/20/20 9:38	ND	10.0	"							
3 & 4-Methylphenol	8/20/20 9:38	ND	10.0	"							
Naphthalene	8/20/20 9:38	ND	10.0	"							
Phenanthrene	8/20/20 9:38	ND	10.0	"							
Pyrene	8/20/20 9:38	ND	10.0	"							
2,4,6-Trichlorophenol	8/20/20 9:38	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*5.17*		*"*	*10.0*		*51.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.02*		*"*	*5.00*		*60.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.75*		*"*	*10.0*		*57.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.61*		*"*	*5.00*		*52.2*	*10-103*			
Surrogate: Phenol-d5		*5.86*		*"*	*10.0*		*58.6*	*10-105*			
Surrogate: Terphenyl-dl4		*2.63*		*"*	*5.00*		*52.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
LCS (0H18037-BS1)											
Acenaphthene	8/20/20 15:50	7.58	10.0	ug/L	10.0		75.8	45.5-108			
Acenaphthylene	8/20/20 15:50	7.34	10.0	"	10.0		73.4	46.4-114			
Anthracene	8/20/20 15:50	7.93	10.0	"	10.0		79.3	47-106			
Benzo (a) anthracene	8/20/20 15:50	7.81	10.0	"	10.0		78.1	50.8-105			
Benzo (b) fluoranthene	8/20/20 15:50	7.48	10.0	"	10.0		74.8	47-109			
Benzo (k) fluoranthene	8/20/20 15:50	7.38	10.0	"	10.0		73.8	44-111			
Benzo (a) pyrene	8/20/20 15:50	7.79	10.0	"	10.0		77.9	52.9-103			
Bis(2-ethylhexyl)phthalate	8/20/20 15:50	6.76	10.0	"	10.0		67.6	36.4-121			
Carbazole	8/20/20 15:50	7.59	10.0	"	10.0		75.9	25-172			
4-Chloro-3-methylphenol	8/20/20 15:50	8.80	10.0	"	10.0		88.0	46.4-108			
Chrysene	8/20/20 15:50	7.67	10.0	"	10.0		76.7	46.6-100			
Dibenz (a,h) anthracene	8/20/20 15:50	9.95	10.0	"	10.0		99.5	46.7-102			CC-03
Dibenzofuran	8/20/20 15:50	7.84	10.0	"	10.0		78.4	45.8-105			
2,4-Dimethylphenol	8/20/20 15:50	6.75	10.0	"	10.0		67.5	41.6-101			
2,4-Dinitrophenol	8/20/20 15:50	8.08	10.0	"	10.0		80.8	10-131			CC-03
Di-n-octyl phthalate	8/20/20 15:50	5.59	10.0	"	10.0		55.9	38.6-123			
Fluoranthene	8/20/20 15:50	9.23	10.0	"	10.0		92.3	44.9-114			
Fluorene	8/20/20 15:50	7.99	10.0	"	10.0		79.9	45.6-107			
Indeno (1,2,3-cd) pyrene	8/20/20 15:50	10.0	10.0	"	10.0		100	45.8-104			CC-03
2-Methylnaphthalene	8/20/20 15:50	7.43	10.0	"	10.0		74.3	44.2-104			
2-Methylphenol	8/20/20 15:50	7.29	10.0	"	10.0		72.9	44.5-103			
3 & 4-Methylphenol	8/20/20 15:50	15.0	10.0	"	20.0		75.1	11-149			
Naphthalene	8/20/20 15:50	7.28	10.0	"	10.0		72.8	45-100			
Phenanthrene	8/20/20 15:50	7.97	10.0	"	10.0		79.7	49.2-107			
Pyrene	8/20/20 15:50	5.70	10.0	"	10.0		57.0	31.7-124			
2,4,6-Trichlorophenol	8/20/20 15:50	7.75	10.0	"	10.0		77.5	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*8.26*		*"*	*10.0*		*82.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.43*		*"*	*5.00*		*68.6*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.91*		*"*	*10.0*		*69.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.86*		*"*	*5.00*		*77.2*	*10-103*			
Surrogate: Phenol-d5		*7.43*		*"*	*10.0*		*74.3*	*10-105*			
Surrogate: Terphenyl-dl4		*2.65*		*"*	*5.00*		*53.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (0H18037-BSD1)											
Acenaphthene	8/20/20 16:26	7.26	10.0	ug/L	10.0		72.6	45.5-108	4.31	40	
Acenaphthylene	8/20/20 16:26	7.06	10.0	"	10.0		70.6	46.4-114	3.89	40	
Anthracene	8/20/20 16:26	7.47	10.0	"	10.0		74.7	47-106	5.97	40	
Benzo (a) anthracene	8/20/20 16:26	7.43	10.0	"	10.0		74.3	50.8-105	4.99	40	
Benzo (b) fluoranthene	8/20/20 16:26	7.24	10.0	"	10.0		72.4	47-109	3.26	40	
Benzo (k) fluoranthene	8/20/20 16:26	7.22	10.0	"	10.0		72.2	44-111	2.19	40	
Benzo (a) pyrene	8/20/20 16:26	7.52	10.0	"	10.0		75.2	52.9-103	3.53	40	
Bis(2-ethylhexyl)phthalate	8/20/20 16:26	6.84	10.0	"	10.0		68.4	36.4-121	1.18	40	
Carbazole	8/20/20 16:26	7.07	10.0	"	10.0		70.7	25-172	7.09	40	
4-Chloro-3-methylphenol	8/20/20 16:26	7.87	10.0	"	10.0		78.7	46.4-108	11.2	40	
Chrysene	8/20/20 16:26	7.22	10.0	"	10.0		72.2	46.6-100	6.04	40	
Dibenz (a,h) anthracene	8/20/20 16:26	10.3	10.0	"	10.0		103	46.7-102	2.97	40	CC-04, L1
Dibenzofuran	8/20/20 16:26	7.42	10.0	"	10.0		74.2	45.8-105	5.50	40	
2,4-Dimethylphenol	8/20/20 16:26	5.77	10.0	"	10.0		57.7	41.6-101	15.7	40	
2,4-Dinitrophenol	8/20/20 16:26	5.97	10.0	"	10.0		59.7	10-131	30.0	40	CC-03
Di-n-octyl phthalate	8/20/20 16:26	5.82	10.0	"	10.0		58.2	38.6-123	4.03	40	
Fluoranthene	8/20/20 16:26	8.09	10.0	"	10.0		80.9	44.9-114	13.2	40	
Fluorene	8/20/20 16:26	7.43	10.0	"	10.0		74.3	45.6-107	7.26	40	
Indeno (1,2,3-cd) pyrene	8/20/20 16:26	10.3	10.0	"	10.0		103	45.8-104	2.95	40	CC-03
2-Methylnaphthalene	8/20/20 16:26	6.90	10.0	"	10.0		69.0	44.2-104	7.40	40	
2-Methylphenol	8/20/20 16:26	6.83	10.0	"	10.0		68.3	44.5-103	6.52	40	
3 & 4-Methylphenol	8/20/20 16:26	14.0	10.0	"	20.0		70.1	11-149	6.96	40	
Naphthalene	8/20/20 16:26	6.78	10.0	"	10.0		67.8	45-100	7.11	40	
Phenanthrene	8/20/20 16:26	7.70	10.0	"	10.0		77.0	49.2-107	3.45	40	
Pyrene	8/20/20 16:26	6.29	10.0	"	10.0		62.9	31.7-124	9.84	40	
2,4,6-Trichlorophenol	8/20/20 16:26	7.33	10.0	"	10.0		73.3	41.7-110	5.57	40	
Surrogate: 2,4,6-Tribromophenol		*7.86*		"	*10.0*		*78.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.41*		"	*5.00*		*68.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.73*		"	*10.0*		*67.3*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.65*		"	*5.00*		*73.0*	*10-103*			
Surrogate: Phenol-d5		*7.30*		"	*10.0*		*73.0*	*10-105*			
Surrogate: Terphenyl-dl4		*3.08*		"	*5.00*		*61.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
Duplicate (0H18037-DUP1)			**Source: 2008259-03**								
Acenaphthene	8/21/20 12:44	190	102	ug/L		191			0.189	45	
Acenaphthylene	8/20/20 17:40	ND	10.2	"		ND				45	
Anthracene	8/20/20 17:40	14.9	10.2	"		14.3			4.39	45	
Benzo (a) anthracene	8/20/20 17:40	ND	10.2	"		ND				45	
Benzo (b) fluoranthene	8/20/20 17:40	ND	10.2	"		ND				45	
Benzo (k) fluoranthene	8/20/20 17:40	ND	10.2	"		ND				45	
Benzo (a) pyrene	8/20/20 17:40	ND	10.2	"		ND				45	
Bis(2-ethylhexyl)phthalate	8/20/20 17:40	ND	10.2	"		ND				45	
Carbazole	8/21/20 12:44	81.1	51.0	"		84.2			3.73	45	
4-Chloro-3-methylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
Chrysene	8/20/20 17:40	ND	10.2	"		ND				45	
Dibenz (a,h) anthracene	8/20/20 17:40	ND	10.2	"		ND				45	CC-01
Dibenzofuran	8/21/20 12:44	106	102	"		103			1.94	45	
2,4-Dimethylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
2,4-Dinitrophenol	8/20/20 17:40	ND	10.2	"		ND				45	CC-01
Di-n-octyl phthalate	8/20/20 17:40	ND	10.2	"		ND				45	
Fluoranthene	8/21/20 12:44	24.2	23.5	"		34.9			36.2	45	
Fluorene	8/21/20 12:44	106	102	"		105			1.43	45	
Indeno (1,2,3-cd) pyrene	8/20/20 17:40	ND	10.2	"		ND				45	CC-01
2-Methylnaphthalene	8/21/20 12:44	56.2	51.0	"		52.9			6.05	45	
2-Methylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
3 & 4-Methylphenol	8/20/20 17:40	ND	10.2	"		ND				45	
Naphthalene	8/25/20 22:02	618	102	"		583			5.81	45	
Phenanthrene	8/21/20 12:44	124	102	"		118			5.15	45	
Pyrene	8/20/20 17:40	11.1	10.2	"		10.5			6.31	45	
2,4,6-Trichlorophenol	8/20/20 17:40	ND	10.2	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*7.94*		*"*	*10.2*		*77.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.96*		*"*	*5.10*		*58.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.18*		*"*	*10.2*		*31.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.33*		*"*	*5.10*		*45.6*	*10-103*			
Surrogate: Phenol-d5		*2.05*		*"*	*10.2*		*20.1*	*10-105*			
Surrogate: Terphenyl-dl4		*2.57*		*"*	*5.10*		*50.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H18037 - EPA 3510C DCN 4000 Rev 12											
Blank (0H18037-BLK1)											
Pentachlorophenol	8/20/20 9:38	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*5.17*		*"*	*10.0*		*51.7*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.75*		*"*	*10.0*		*57.5*	*12.7-100*			
Surrogate: Phenol-d5		*5.86*		*"*	*10.0*		*58.6*	*16.1-100*			
LCS (0H18037-BS1)											
Pentachlorophenol	8/20/20 15:50	8.12	1.00	ug/L	10.0		81.2	10-144			
Surrogate: 2,4,6-Tribromophenol		*8.26*		*"*	*10.0*		*82.6*	*16.2-100*			
Surrogate: 2-Fluorophenol		*6.91*		*"*	*10.0*		*69.1*	*12.7-100*			
Surrogate: Phenol-d5		*7.43*		*"*	*10.0*		*74.3*	*16.1-100*			
LCS Dup (0H18037-BSD1)											
Pentachlorophenol	8/20/20 16:26	6.36	1.00	ug/L	10.0		63.6	10-144	24.3	40	
Surrogate: 2,4,6-Tribromophenol		*7.86*		*"*	*10.0*		*78.6*	*16.2-100*			
Surrogate: 2-Fluorophenol		*6.73*		*"*	*10.0*		*67.3*	*12.7-100*			
Surrogate: Phenol-d5		*7.30*		*"*	*10.0*		*73.0*	*16.1-100*			
Duplicate (0H18037-DUP1)			**Source: 2008259-03**								
Pentachlorophenol	8/20/20 17:40	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*7.94*		*"*	*10.2*		*77.8*	*16.2-100*			
Surrogate: 2-Fluorophenol		*3.18*		*"*	*10.2*		*31.2*	*12.7-100*			
Surrogate: Phenol-d5		*2.05*		*"*	*10.2*		*20.1*	*16.1-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 0H19063 - EPA 5030B											
Blank (0H19063-BLK1)											
Benzene	8/17/20 10:24	ND	5.00	ug/L							
Ethylbenzene	8/17/20 10:24	ND	5.00	"							
Surrogate: Dibromofluoromethane		*47.3*		"	*50.0*		*94.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.5*		"	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8		*56.0*		"	*50.0*		*112*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*44.8*		"	*50.0*		*89.6*	*70-130*			
LCS (0H19063-BS1)											
Benzene	8/17/20 10:47	19.1	5.00	ug/L	20.0		95.4	70.8-137			
Ethylbenzene	8/17/20 10:47	22.6	5.00	"	20.0		113	73.6-139			
Surrogate: Dibromofluoromethane		*46.8*		"	*50.0*		*93.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.7*		"	*50.0*		*97.4*	*70-130*			
Surrogate: Toluene-d8		*53.8*		"	*50.0*		*108*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.1*		"	*50.0*		*96.2*	*70-130*			
LCS Dup (0H19063-BSD1)											
Benzene	8/17/20 11:11	18.1	5.00	ug/L	20.0		90.4	70.8-137	5.44	30	
Ethylbenzene	8/17/20 11:11	21.6	5.00	"	20.0		108	73.6-139	4.66	30	
Surrogate: Dibromofluoromethane		*46.5*		"	*50.0*		*93.0*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*49.8*		"	*50.0*		*99.6*	*70-130*			
Surrogate: Toluene-d8		*54.4*		"	*50.0*		*109*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*47.8*		"	*50.0*		*95.6*	*70-130*			
Duplicate (0H19063-DUP1)				**Source: 2008259-02**							
Benzene	8/17/20 15:47	9.00	5.00	ug/L		10.2			12.7	35	
Ethylbenzene	8/17/20 15:47	36.2	5.00	"		44.3			20.1	35	
Surrogate: Dibromofluoromethane		*ND*		"	*50.0*			*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*48.3*		"	*50.0*		*96.6*	*70-130*			
Surrogate: Toluene-d8		*51.6*		"	*50.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*46.8*		"	*50.0*		*93.6*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2021*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2021*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2020*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2020*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi	*Not certified by an accrediting body*	*No certification held*	*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
09/01/2020 16:05

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Amy K Lancaster	AKL
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Gayle M. Sparling	GMS
Kristy L. Pierce	KLP
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2008259

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days
x Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 3RD QTR 2020
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH COND	CHLORIDE NITRATE AMMONIA	METALS	BNA	VOA
Preservative									
RC-1A	8-13-20/10:15	W	7	G	X	X	X	X	X
RC-1	8--13-20/10:45	W	7	G	X	X	X	X	X
RW-2	8-13-20/11:00	W	9	G	X	X	X	X	X
E-1	8-13-20/14:30	W	9	G	X	X	X	X	X
TBV TBS#6513	8-13-20/10:15	W	2	G					X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 4 Cooler # 8 **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample ____ Blank X Cooler ____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		FMS	8-13-20	15:51
Received by	Sarah Tomek	Sarah Tomek	MM	8/13/2020	1551
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler # 1 1.1°c
1143 0.3°c.

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

March 24, 2021

Ethan Allen

Work Order # : 2103182

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/09/2021 15:45. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-2	2103182-01	Water	03/09/2021 13:15	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RC-1A	2103182-02	Water	03/09/2021 14:15	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-8A	2103182-03	Water	03/09/2021 12:45	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/B-97	2103182-04	Water	03/09/2021 13:45	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RC-1	2103182-05	Water	03/09/2021 15:00	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-11	2103182-06	Water	03/09/2021 10:10	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/T-2	2103182-07	Water	03/09/2021 09:30	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-12	2103182-08	Water	03/09/2021 10:20	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-4	2103182-09	Water	03/09/2021 12:10	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-5	2103182-10	Water	03/09/2021 12:30	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-13	2103182-11	Water	03/09/2021 10:30	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-2	2103182-12	Water	03/09/2021 08:54	*Jeff Gonsoulin*	03/09/2021 15:45
Mobile/RW-1	2103182-13	Water	03/09/2021 09:00	*Jeff Gonsoulin*	03/09/2021 15:45
Trip Blank TBV#6666	2103182-14	Water	03/09/2021 08:54	*Micro Methods*	03/09/2021 15:45

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Sample Receipt Conditions

Date/Time Received: 3/9/2021 3:45:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 3/10/2021 7:53:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Cooler ID: client cooler #2

Receipt Temperature: 1.8 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Cooler ID: client cooler #3

Receipt Temperature: 0.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Cooler ID: client cooler #4

Receipt Temperature: 0.7 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:21

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 03/24/2021 08:21

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5

2103182-13[Mobile/RW-1]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol

2103182-02[Mobile/RC-1A], 2103182-06[Mobile/RW-11], 2103182-07[Mobile/T-2], 2103182-08[Mobile/RW-12], 2103182-11[Mobile/RW-13]

M1 MS/MSD Recovery limit exceeded.

Benzo (a) pyrene

1C11030-MS1

M2 MS/MSD Recovery below acceptable limit.

Fluoranthene

1C12027-MS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Acenaphthene, Benzo (a) pyrene, Fluorene

1C12027-MS1, 1C11030-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Fluoranthene, Pyrene

1C12027-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl, Nitrobenzene-d5, Terphenyl-dl4

1C11030-DUP1, 1C11030-MS1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Terphenyl-dl4

2103182-12[Mobile/RW-2]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:21

Anions-SM 4110B 2011

Qualifiers:

E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

Chloride

1C11042-DUP1, 1C11042-MS1, 1C11042-MSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Chloride

1C11042-MS1, 1C11042-MSD1

RPD04 The RPD between the sample and sample duplicate exceeded the acceptance limits.

Chloride

1C11042-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

1C11035-DUP1, 1C11035-DUP2, 2103182-01[Mobile/RC-2], 2103182-02[Mobile/RC-1A], 2103182-03[Mobile/ RW-8A], 2103182-04[Mobile/B-97], 2103182-05[Mobile/RC-1], 2103182-06[Mobile/RW-11], 2103182-07[Mobile/T-2], 2103182-08[Mobile/RW-12], 2103182-09[Mobile/RW-4], 2103182-10[Mobile/RW-5], 2103182-11[Mobile/RW-13], 2103182-12[Mobile/RW-2], 2103182-13[Mobile/RW-1]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-2

2103182-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**167**	5.00	mg/L	10.0	1C11042	TKM	03/11/2021 09:00	03/12/2021 05:38	SM 4110B 2011	
Nitrate as N	**1.71**	0.500	"	1.0	"	TKM	"	03/11/2021 12:37	"	
Ammonia as N	**5.79**	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:28	Lachat 10-107-06-1-I	
pH	**6.42**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**876**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 12:56	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00337**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**30.7**	10.3	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	03/15/2021 18:56	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-2

2103182-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
2,4,6-Trichlorophenol	ND	10.3	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	51.8	*50.5 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	27.1	*52.9 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	28.2	*27.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	26.2	*51.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	18.2	*17.8 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	23.2	*45.3 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 14:03	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	49.6	*99.2 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.8	*110 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	41.9	*83.8 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	59.2	*118 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-1A

2103182-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**135**	2.50	mg/L	5.0	1C11042	TKM	03/10/2021 15:00	03/12/2021 04:02	SM 4110B 2011	
Nitrate as N	**1.53**	0.500	"	1.0	"	TKM	"	03/10/2021 20:01	"	
Ammonia as N	**1.29**	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:29	Lachat 10-107-06-1-I	
pH	**6.63**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**698**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 13:03	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-1A

2103182-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**262**	105	ug/L	10.0	1C12027	CRLV	03/12/2021 11:20	03/15/2021 20:04	EPA 8270D	
Acenaphthylene	ND	10.5	"	1.0	"	CRLV	"	03/16/2021 12:53	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	**477**	105	"	10.0	"	CRLV	"	03/15/2021 20:04	"	
4-Chloro-3-methylphenol	ND	10.5	"	1.0	"	CRLV	"	03/16/2021 12:53	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	**78.1**	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	**92.2**	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**26.0**	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	**922**	105	"	10.0	"	CRLV	"	03/15/2021 20:04	"	
Pentachlorophenol	ND	10.5	"	1.0	"	CRLV	"	03/16/2021 12:53	"	
Phenanthrene	**50.4**	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	63.3	*60.2 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	29.9	*56.8 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	32.9	*31.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	26.2	*49.9 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	18.8	*17.8 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	27.5	*52.2 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D									
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 14:26	EPA 8260D
Ethylbenzene	**23.2**	5.00	"	"	"	SAD	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-1A

2103182-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	49.2	*98.4 %*	*70-130*	*1C11056*	SAD	*03/10/2021 08:00*	"	"	
1,2-Dichloroethane-d4	48.5	*97.0 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	48.9	*97.8 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	50.6	*101 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-8A

2103182-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 08:27	03/11/2021 21:24	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.113	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.165	*80.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.196	*95.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**248**	10.0	mg/L	20.0	1C11042	TKM	03/11/2021 15:00	03/12/2021 05:06	SM 4110B 2011	
Nitrate as N	ND	1.00	"	2.0	"	TKM	"	03/12/2021 02:27	"	
Ammonia as N	ND	0.21	"	1.0	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:30	Lachat 10-107-06-1-I	
pH	**8.81**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1140**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 13:23	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-8A

2103182-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/15/2021 15:10	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.89	*57.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.69	*52.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.17	*30.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.29	*44.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.06	*20.1 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.94	*57.4 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/15/2021 15:10	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.89	*57.4 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.17	*30.9 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.06	*20.1 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-8A

2103182-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 14:50	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	49.0	*98.0 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.8	*102 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	49.6	*99.3 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	50.5	*101 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/B-97

2103182-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 08:27	03/11/2021 22:05	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0722	*35.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.0928	*45.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.175	*85.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**659**	12.5	mg/L	25.0	1C11042	TKM	03/10/2021 15:00	03/12/2021 17:58	SM 4110B 2011	
Nitrate as N	ND	2.50	"	5.0	"	TKM	"	03/11/2021 00:48	"	
Ammonia as N	**9.76**	0.21	"	1.0	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:31	Lachat 10-107-06-1-I	
pH	**6.95**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**2090**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	**0.00358**	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 13:30	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00138**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/B-97

2103182-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.6	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/15/2021 14:32	EPA 8270D	
Acenaphthylene	ND	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.6	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.6	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.31	*59.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.80	*53.0 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.08	*29.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.48	*46.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.11	*19.9 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.44	*46.2 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/15/2021 14:32	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.31	*59.6 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.08	*29.1 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.11	*19.9 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/B-97

2103182-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 15:14	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	49.6	*99.2 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	49.8	*99.6 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	49.1	*98.2 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	50.3	*101 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-1

2103182-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**196**	2.50	mg/L	5.0	1C11042	TKM	03/10/2021 15:00	03/11/2021 00:16	SM 4110B 2011	
Nitrate as N	ND	2.50	"	"	"	TKM	"	"	"	
Ammonia as N	**7.54**	0.21	"	1.0	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:32	Lachat 10-107-06-1-I	
pH	**6.69**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1220**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 13:37	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-1

2103182-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**384**	107	ug/L	10.0	1C12027	CRLV	03/12/2021 11:20	03/17/2021 12:38	EPA 8270D	
Acenaphthylene	ND	10.7	"	1.0	"	CRLV	"	03/17/2021 09:48	"	
Anthracene	**14.1**	10.7	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.7	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.7	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.7	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.7	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.7	"	"	"	CRLV	"	"	"	
Carbazole	**496**	107	"	10.0	"	CRLV	"	03/17/2021 12:38	"	
4-Chloro-3-methylphenol	ND	10.7	"	1.0	"	CRLV	"	03/17/2021 09:48	"	
Chrysene	ND	10.7	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.7	"	"	"	CRLV	"	"	"	
Dibenzofuran	**97.8**	10.7	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**578**	107	"	10.0	"	CRLV	"	03/17/2021 12:38	"	
2,4-Dinitrophenol	ND	10.7	"	1.0	"	CRLV	"	03/17/2021 09:48	"	
Di-n-octyl phthalate	ND	10.7	"	"	"	CRLV	"	"	"	
Fluoranthene	**23.9**	10.7	"	"	"	CRLV	"	"	"	
Fluorene	**227**	107	"	10.0	"	CRLV	"	03/17/2021 12:38	"	
Indeno (1,2,3-cd) pyrene	ND	10.7	"	1.0	"	CRLV	"	03/17/2021 09:48	"	
2-Methylnaphthalene	**530**	107	"	10.0	"	CRLV	"	03/17/2021 12:38	"	
2-Methylphenol	ND	10.7	"	1.0	"	CRLV	"	03/17/2021 09:48	"	
3 & 4-Methylphenol	**21.3**	10.7	"	"	"	CRLV	"	"	"	
Naphthalene	**9550**	1070	"	100.0	"	CRLV	"	03/17/2021 13:12	"	
Pentachlorophenol	ND	10.7	"	1.0	"	CRLV	"	03/17/2021 09:48	"	
Phenanthrene	**103**	10.7	"	"	"	CRLV	"	"	"	
Pyrene	**12.4**	10.7	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.7	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	59.3	*55.5 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	29.5	*55.1 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	30.4	*28.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	52.8	*98.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	18.8	*17.6 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	17.5	*32.8 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D									
Benzene	**13.1**	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 15:37	EPA 8260D	
Ethylbenzene	**53.1**	5.00	"	"	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RC-1

2103182-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	49.0	*98.1 %*	*70-130*	*1C11056*	SAD	*03/10/2021 08:00*	"	"	
1,2-Dichloroethane-d4	50.7	*101 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	49.5	*98.9 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	52.0	*104 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-11

2103182-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**196**	2.50	mg/L	5.0	1C11042	TKM	03/10/2021 15:00	03/12/2021 04:34	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/10/2021 20:33	"	
Ammonia as N	**4.70**	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:39	Lachat 10-107-06-1-I	
pH	**7.71**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1400**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**74.9**	10.5	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	03/16/2021 20:15	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	**20.0**	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**43.9**	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**31.4**	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**14.1**	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**22.8**	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	**30.4**	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	**10.9**	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	**102**	10.5	"	"	"	CRLV	"	"	"	
Fluorene	**20.2**	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	**71.0**	10.5	"	"	"	CRLV	"	"	"	
Pyrene	**71.8**	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-11

2103182-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	51.8	*49.4 %*	*13.3-115*		*1C12027*	CRLV	*03/12/2021 11:20*	"	"	
2-Fluorobiphenyl	25.6	*48.9 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	22.4	*21.4 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	23.7	*45.4 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	16.2	*15.5 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	20.1	*38.5 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 16:01	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	48.6	*97.1 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	49.5	*99.1 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	48.8	*97.5 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	51.0	*102 %*	*70-130*		"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/T-2

2103182-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**130**	2.50	mg/L	5.0	1C11042	TKM	03/10/2021 15:00	03/12/2021 14:15	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/10/2021 18:26	"	
Ammonia as N	**1.32**	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:40	Lachat 10-107-06-1-I	
pH	**6.95**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1130**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 13:43	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**200**	10.3	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	03/16/2021 17:59	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	**15.9**	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**81.1**	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**89.1**	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**15.7**	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**45.7**	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**111**	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**75.2**	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**55.9**	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	**58.7**	10.3	"	"	"	CRLV	"	"	"	
Pyrene	**28.3**	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/T-2

2103182-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	71.9	*70.1 %*	*13.3-115*		*1C12027*	CRLV	*03/12/2021 11:20*	"	"	
2-Fluorobiphenyl	33.4	*65.1 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	42.6	*41.5 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	34.0	*66.2 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	24.1	*23.5 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	29.0	*56.6 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 16:25	EPA 8260D	
Ethylbenzene	**6.23**	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	49.2	*98.3 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	51.1	*102 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	47.7	*95.3 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	52.0	*104 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-12

2103182-08 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**139**	5.00	mg/L	10.0	1C11042	TKM	03/10/2021 15:00	03/12/2021 19:02	SM 4110B 2011	
Nitrate as N	ND	1.00	"	2.0	"	TKM	"	03/12/2021 02:59	"	
Ammonia as N	**1.99**	0.21	"	1.0	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:41	Lachat 10-107-06-1-I	
pH	**6.92**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1110**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**40.4**	10.4	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	03/16/2021 11:44	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	**21.4**	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-12

2103182-08 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	55.0	*53.1 %*	*13.3-115*		*1C12027*	CRLV	*03/12/2021 11:20*	"	"	
2-Fluorobiphenyl	26.4	*51.0 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	27.6	*26.6 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	28.3	*54.7 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	19.0	*18.3 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	28.1	*54.3 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 17:36	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	49.2	*98.4 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	50.1	*100 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	48.3	*96.7 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	51.7	*103 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-4

2103182-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 08:27	03/12/2021 00:51	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.116	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.189	*90.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.242	*115 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**18.3**	0.500	mg/L	1.0	1C11042	TKM	03/11/2021 09:00	03/11/2021 11:01	SM 4110B 2011	
Nitrate as N	**0.818**	0.500	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:42	Lachat 10-107-06-1-I	
pH	**6.91**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**130**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 13:50	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00256**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00276**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-4

2103182-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/15/2021 15:48	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.56	*53.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.52	*48.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.90	*27.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.14	*41.0 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.83	*17.6 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	3.08	*59.2 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/15/2021 15:48	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.56	*53.4 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.90	*27.8 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.83	*17.6 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-4

2103182-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/10/2021 17:59	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	49.8	*99.6 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.5	*109 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	48.6	*97.2 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	53.3	*107 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-5

2103182-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 08:27	03/12/2021 12:36	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0947	*45.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.116	*55.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.147	*70.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**6.66**	0.500	mg/L	1.0	1C11042	TKM	03/10/2021 15:00	03/11/2021 01:52	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:47	Lachat 10-107-06-1-I	
pH	**6.93**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**109**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 13:57	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-5

2103182-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.5	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/15/2021 17:42	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.08	*58.1 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.75	*52.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.31	*31.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.50	*47.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.19	*20.9 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.88	*55.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/15/2021 17:42	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.08	*58.1 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.31	*31.6 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.19	*20.9 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-5

2103182-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/11/2021 14:25	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	57.4	*115 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.9	*112 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	50.7	*101 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	51.7	*103 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-13

2103182-11 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**95.7**	2.50	mg/L	5.0	1C11042	TKM	03/10/2021 15:00	03/12/2021 19:34	SM 4110B 2011	
Nitrate as N	ND	1.00	"	2.0	"	TKM	"	03/10/2021 23:45	"	
Ammonia as N	**1.28**	0.21	"	1.0	1C10047	CDV	03/10/2021 14:27	03/10/2021 15:48	Lachat 10-107-06-1-I	
pH	**7.19**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**978**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	03/16/2021 19:41	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-13

2103182-11 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	54.1	*52.7 %*	*13.3-115*		*1C12027*	CRLV	*03/12/2021 11:20*	"	"	
2-Fluorobiphenyl	29.9	*58.4 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	31.7	*30.9 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	30.6	*59.7 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	20.3	*19.8 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	22.6	*44.0 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/11/2021 14:51	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	58.4	*117 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	56.3	*113 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	51.6	*103 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	50.6	*101 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-2

2103182-12 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**0.49**	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 08:27	03/12/2021 15:22	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0729	*35.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.0938	*45.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.531	*255 %*	*11.3-166*		"	CRLV	"	"	"	*SR06*
Classical Chemistry Parameters										
Chloride	**44.5**	1.00	mg/L	2.0	1C11042	TKM	03/10/2021 15:00	03/12/2021 00:51	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/10/2021 18:57	"	
Ammonia as N	**0.47**	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 16:02	Lachat 10-107-06-1-I	
pH	**6.11**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**332**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	**0.00368**	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 14:03	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00730**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-2

2103182-12 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**85.3**	51.5	ug/L	5.0	1C12007	CRLV	03/12/2021 08:02	03/16/2021 16:05	EPA 8270D	
Acenaphthylene	ND	10.3	"	1.0	"	CRLV	"	03/15/2021 18:20	"	
Anthracene	**11.4**	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**30.1**	25.8	"	5.0	"	CRLV	"	03/16/2021 16:05	"	
4-Chloro-3-methylphenol	ND	10.3	"	1.0	"	CRLV	"	03/15/2021 18:20	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**50.1**	46.4	"	5.0	"	CRLV	"	03/16/2021 16:05	"	
2,4-Dimethylphenol	ND	10.3	"	1.0	"	CRLV	"	03/15/2021 18:20	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**38.9**	36.1	"	5.0	"	CRLV	"	03/16/2021 16:05	"	
Fluorene	**60.6**	51.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	1.0	"	CRLV	"	03/15/2021 18:20	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	**88.2**	51.5	"	5.0	"	CRLV	"	03/16/2021 16:05	"	
Pyrene	**23.6**	20.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	1.0	"	CRLV	"	03/15/2021 18:20	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.97	*57.9 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.60	*50.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.11	*30.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.24	*43.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.05	*19.9 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.71	*52.6 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/15/2021 18:20	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-2

2103182-12 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	5.97	*57.9 %*	*16.2-100*		*1C12007*	CRLV	*03/12/2021 08:02*	"	"	
2-Fluorophenol	3.11	*30.2 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	2.05	*19.9 %*	*16.1-100*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/11/2021 15:18	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	58.7	*117 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.5	*109 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	51.1	*102 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	51.0	*102 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-1

2103182-13 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**0.16**	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 08:27	03/12/2021 14:41	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0928	*45.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.134	*65.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.124	*60.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**36.9**	0.500	mg/L	1.0	1C11042	TKM	03/10/2021 15:00	03/10/2021 19:29	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	TKM	"	"	"	
Ammonia as N	**1.87**	0.21	"	"	1C10047	CDV	03/10/2021 14:27	03/10/2021 16:03	Lachat 10-107-06-1-I	
pH	**7.14**		pH Units	"	1C11035	GMS	03/10/2021 12:35	03/10/2021 12:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**417**		umhos/cm @25.0 C	"	1C11032	GMS	03/10/2021 11:30	03/10/2021 12:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	**0.00623**	0.00200	mg/L	1.0	1C12025	ABT	03/12/2021 08:30	03/15/2021 14:10	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00756**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.0112**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-1

2103182-13 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/15/2021 18:57	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	3.35	*32.3 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.58	*30.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.17	*20.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.39	*26.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.43	*13.8 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	1.23	*23.8 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/15/2021 18:57	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	3.35	*32.3 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.17	*20.9 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.43	*13.8 %*	*16.1-100*	"	CRLV	"	"	"	*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Mobile/RW-1

2103182-13 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/11/2021 15:45	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.8	*114 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	53.8	*108 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.3	*105 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	53.7	*107 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Trip Blank TBV#6666

2103182-14 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C11056	SAD	03/10/2021 08:00	03/11/2021 16:12	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	59.3	*119 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	58.5	*117 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.5	*105 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	51.2	*102 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
Blank (1C11030-BLK1)											
Benzo (a) pyrene	3/11/21 19:19	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.160*		*"*	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		*"*	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.200*		*"*	*0.200*		*100*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
LCS (1C11030-BS1)											
Benzo (a) pyrene	3/11/21 20:01	0.29	0.06	ug/L	0.200		145	10-149			
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.140*		"	*0.200*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.170*		"	*0.200*		*85.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C11030-BSD1)											
Benzo (a) pyrene	3/11/21 20:42	0.24	0.06	ug/L	0.200		120	10-149	18.9	40	
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.220*		"	*0.200*		*110*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.140*		"	*0.200*		*70.0*	*11.3-163*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C11030-DUP1)			**Source: 2103182-12**								
Benzo (a) pyrene	3/12/21 11:14	10.2	0.62	ug/L		0.49			182	200	
Surrogate: 2-Fluorobiphenyl		*0.00*		*"*	*0.205*			*13.3-100*			*SR01*
Surrogate: Nitrobenzene-d5		*0.00*		*"*	*0.205*			*19.6-113*			*SR01*
Surrogate: Terphenyl-dl4		*0.00*		*"*	*0.205*			*11.3-163*			*SR01*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C11030-MS1)			**Source: 2103182-12**								
Benzo (a) pyrene	3/12/21 11:55	8.80	0.63	ug/L	0.209	0.49	NR	10-208			M1, M5
Surrogate: 2-Fluorobiphenyl		*0.00*		*"*	*0.209*			*13.3-100*			*SR01*
Surrogate: Nitrobenzene-d5		*0.00*		*"*	*0.209*			*19.6-113*			*SR01*
Surrogate: Terphenyl-dl4		*0.00*		*"*	*0.209*			*11.3-163*			*SR01*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C10047 - Default Prep GenChem											
Blank (1C10047-BLK1)											
Ammonia as N	3/10/21 14:53	ND	0.21	mg/L							
Blank (1C10047-BLK2)											
Ammonia as N	3/10/21 15:24	ND	0.21	mg/L							
LCS (1C10047-BS1)											
Ammonia as N	3/10/21 14:56	5.24	0.21	mg/L	5.00		105	90-110			
LCS (1C10047-BS2)											
Ammonia as N	3/10/21 15:21	5.06	0.21	mg/L	5.00		101	90-110			
LCS Dup (1C10047-BSD1)											
Ammonia as N	3/10/21 15:00	5.11	0.21	mg/L	5.00		102	90-110	2.51	10	
LCS Dup (1C10047-BSD2)											
Ammonia as N	3/10/21 15:35	5.12	0.21	mg/L	5.00		102	90-110	1.18	10	
Matrix Spike (1C10047-MS1)			**Source: 2103161-02**								
Ammonia as N	3/10/21 15:13	5.22	0.21	mg/L	5.00	0.50	94.5	90-110			
Matrix Spike (1C10047-MS2)			**Source: 2103182-09**								
Ammonia as N	3/10/21 15:43	4.68	0.21	mg/L	5.00	0.09	91.7	90-110			
Matrix Spike Dup (1C10047-MSD1)			**Source: 2103161-02**								
Ammonia as N	3/10/21 15:15	5.48	0.21	mg/L	5.00	0.50	99.7	90-110	4.86	10	
Matrix Spike Dup (1C10047-MSD2)			**Source: 2103182-09**								
Ammonia as N	3/10/21 15:45	4.65	0.21	mg/L	5.00	0.09	91.1	90-110	0.643	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11032 - Default Prep GenChem											
LCS (1C11032-BS1)											
Specific Conductance (EC)	3/10/21 12:00	1430		uS/cm	1410		101	90-110			
Duplicate (1C11032-DUP1)			**Source: 2103182-01**								
Specific Conductance (EC)	3/10/21 12:00	877		umhos/cm @25.0 C		876			0.114	10	
Batch 1C11035 - Default Prep GenChem											
Duplicate (1C11035-DUP1)			**Source: 2103182-01**								
pH	3/10/21 12:35	6.41		pH Units		6.42			0.156	5	HT-02
Duplicate (1C11035-DUP2)			**Source: 2103182-13**								
pH	3/10/21 12:35	7.19		pH Units		7.14			0.698	5	HT-02
Batch 1C11042 - Default Prep GenChem											
Blank (1C11042-BLK1)											
Chloride	3/10/21 12:34	ND	0.500	mg/L							
Nitrate as N	3/10/21 12:34	ND	0.500	"							
Blank (1C11042-BLK2)											
Chloride	3/10/21 23:13	ND	0.500	mg/L							
Nitrate as N	3/10/21 23:13	ND	0.500	"							
Blank (1C11042-BLK3)											
Chloride	3/11/21 10:29	ND	0.500	mg/L							
Nitrate as N	3/11/21 10:29	ND	0.500	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11042 - Default Prep GenChem											
Blank (1C11042-BLK4)											
Chloride	3/12/21 8:50	ND	0.500	mg/L							
Nitrate as N	3/12/21 8:50	ND	0.500	"							
Blank (1C11042-BLK5)											
Chloride	3/16/21 10:50	ND	0.500	mg/L							
Nitrate as N	3/16/21 10:50	ND	0.500	"							
LCS (1C11042-BS1)											
Chloride	3/10/21 10:26	2.75	0.500	mg/L	3.00		91.7	86.3-109			
Nitrate as N	3/10/21 10:26	2.08	0.500	"	2.26		91.8	81.7-111			
LCS (1C11042-BS2)											
Chloride	3/10/21 22:09	2.91	0.500	mg/L	3.00		96.8	86.3-109			
Nitrate as N	3/10/21 22:09	2.18	0.500	"	2.26		96.3	81.7-111			
LCS (1C11042-BS3)											
Chloride	3/11/21 8:53	2.85	0.500	mg/L	3.00		94.8	86.3-109			
Nitrate as N	3/11/21 8:53	2.13	0.500	"	2.26		94.4	81.7-111			
LCS (1C11042-BS4)											
Chloride	3/12/21 7:46	2.87	0.500	mg/L	3.00		95.7	86.3-109			
Nitrate as N	3/12/21 7:46	2.39	0.500	"	2.26		106	81.7-111			
LCS (1C11042-BS5)											
Chloride	3/16/21 9:14	2.97	0.500	mg/L	3.00		98.9	86.3-109			
Nitrate as N	3/16/21 9:14	2.18	0.500	"	2.26		96.4	81.7-111			
LCS Dup (1C11042-BSD1)											
Chloride	3/10/21 12:02	2.85	0.500	mg/L	3.00		95.1	86.3-109	3.64	20	
Nitrate as N	3/10/21 12:02	2.14	0.500	"	2.26		94.8	81.7-111	3.22	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11042 - Default Prep GenChem											
LCS Dup (1C11042-BSD2)											
Chloride	3/10/21 22:41	2.91	0.500	mg/L	3.00		96.9	86.3-109	0.103	20	
Nitrate as N	3/10/21 22:41	2.18	0.500	"	2.26		96.5	81.7-111	0.184	20	
LCS Dup (1C11042-BSD3)											
Chloride	3/11/21 9:57	2.88	0.500	mg/L	3.00		95.9	86.3-109	1.15	20	
Nitrate as N	3/11/21 9:57	2.15	0.500	"	2.26		95.0	81.7-111	0.701	20	
LCS Dup (1C11042-BSD4)											
Chloride	3/12/21 8:18	2.87	0.500	mg/L	3.00		95.8	86.3-109	0.0696	20	
Nitrate as N	3/12/21 8:18	2.15	0.500	"	2.26		95.3	81.7-111	10.3	20	
LCS Dup (1C11042-BSD5)											
Chloride	3/16/21 9:46	2.99	0.500	mg/L	3.00		99.5	86.3-109	0.605	20	
Nitrate as N	3/16/21 9:46	2.18	0.500	"	2.26		96.3	81.7-111	0.0919	20	
Duplicate (1C11042-DUP1)			**Source: 2103161-02**								
Chloride	3/10/21 14:42	616	2.50	mg/L		444			32.4	20	E, RPD04
Nitrate as N	3/10/21 14:42	7.80	2.50	"		7.03			10.3	20	
Duplicate (1C11042-DUP2)			**Source: 2103182-10**								
Chloride	3/11/21 13:09	7.12	0.500	mg/L		6.66			6.55	20	
Nitrate as N	3/11/21 13:09	0.409	0.500	"		0.428			4.54	20	
Matrix Spike (1C11042-MS1)			**Source: 2103161-02**								
Chloride	3/10/21 15:14	102		mg/L	20.0	88.8	68.5	76.2-122			E, M5
Nitrate as N	3/10/21 15:14	5.50		"	4.52	1.41	90.5	60.8-130			
Matrix Spike (1C11042-MS2)			**Source: 2103182-10**								
Chloride	3/11/21 13:40	17.0	0.500	mg/L	10.0	6.66	103	76.2-122			
Nitrate as N	3/11/21 13:40	2.35	0.500	"	2.26	0.428	85.1	60.8-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11042 - Default Prep GenChem											
Matrix Spike Dup (1C11042-MSD1)			**Source: 2103161-02**								
Chloride	3/10/21 15:46	103		mg/L	20.0	88.8	72.9	76.2-122	0.857	20	E, M5
Nitrate as N	3/10/21 15:46	5.88		"	4.52	1.41	99.0	60.8-130	6.78	20	
Matrix Spike Dup (1C11042-MSD2)			**Source: 2103182-10**								
Chloride	3/11/21 2:25	17.1	0.500	mg/L	10.0	6.66	105	76.2-122	0.756	20	
Nitrate as N	3/11/21 2:25	2.47	0.500	"	2.26	0.428	90.3	60.8-130	4.85	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12025 - EPA 200.2 DCN 1017 Rev 9											
Blank (1C12025-BLK1)											
Arsenic [He]	3/15/21 12:37	ND	0.00200	mg/L							
Chromium [He]	3/15/21 12:37	ND	0.00100	"							
Lead [He]	3/15/21 12:37	ND	0.00100	"							
Nickel [He]	3/15/21 12:37	ND	0.0400	"							
LCS (1C12025-BS1)											
Arsenic [He]	3/15/21 12:43	0.102	0.00200	mg/L	0.100		102	85-115			
Chromium [He]	3/15/21 12:43	0.105	0.00100	"	0.100		105	85-115			
Lead [He]	3/15/21 12:43	0.100	0.00100	"	0.100		99.7	85-115			
Nickel [He]	3/15/21 12:43	0.103	0.0400	"	0.100		103	85-115			
LCS Dup (1C12025-BSD1)											
Arsenic [He]	3/15/21 12:50	0.103	0.00200	mg/L	0.100		103	85-115	0.775	20	
Chromium [He]	3/15/21 12:50	0.106	0.00100	"	0.100		106	85-115	0.534	20	
Lead [He]	3/15/21 12:50	0.100	0.00100	"	0.100		99.7	85-115	0.0201	20	
Nickel [He]	3/15/21 12:50	0.103	0.0400	"	0.100		103	85-115	0.177	20	
Matrix Spike (1C12025-MS1)			**Source: 2103182-02**								
Arsenic [He]	3/15/21 13:10	0.103	0.00200	mg/L	0.100	0.0004	102	70-130			
Chromium [He]	3/15/21 13:10	0.099	0.00100	"	0.100	ND	98.6	70-130			
Lead [He]	3/15/21 13:10	0.102	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	3/15/21 13:10	0.098	0.0400	"	0.100	0.0007	97.7	70-130			
Matrix Spike Dup (1C12025-MSD1)			**Source: 2103182-02**								
Arsenic [He]	3/15/21 13:17	0.105	0.00200	mg/L	0.100	0.0004	105	70-130	2.10	20	
Chromium [He]	3/15/21 13:17	0.100	0.00100	"	0.100	ND	100	70-130	1.86	20	
Lead [He]	3/15/21 13:17	0.104	0.00100	"	0.100	ND	104	70-130	2.04	20	
Nickel [He]	3/15/21 13:17	0.102	0.0400	"	0.100	0.0007	101	70-130	3.25	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Blank (1C12007-BLK1)											
Acenaphthene	3/15/21 9:30	ND	10.0	ug/L							
Acenaphthylene	3/15/21 9:30	ND	10.0	"							
Anthracene	3/15/21 9:30	ND	10.0	"							
Benzo (a) anthracene	3/15/21 9:30	ND	10.0	"							
Benzo (b) fluoranthene	3/15/21 9:30	ND	10.0	"							
Benzo (k) fluoranthene	3/15/21 9:30	ND	10.0	"							
Benzo (a) pyrene	3/15/21 9:30	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/15/21 9:30	ND	10.0	"							
Carbazole	3/15/21 9:30	ND	10.0	"							
4-Chloro-3-methylphenol	3/15/21 9:30	ND	10.0	"							
Chrysene	3/15/21 9:30	ND	10.0	"							
Dibenz (a,h) anthracene	3/15/21 9:30	ND	10.0	"							
Dibenzofuran	3/15/21 9:30	ND	10.0	"							
2,4-Dimethylphenol	3/15/21 9:30	ND	10.0	"							
2,4-Dinitrophenol	3/15/21 9:30	ND	10.0	"							
Di-n-octyl phthalate	3/15/21 9:30	ND	10.0	"							
Fluoranthene	3/15/21 9:30	ND	10.0	"							
Fluorene	3/15/21 9:30	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/15/21 9:30	ND	10.0	"							
2-Methylnaphthalene	3/15/21 9:30	ND	10.0	"							
2-Methylphenol	3/15/21 9:30	ND	10.0	"							
3 & 4-Methylphenol	3/15/21 9:30	ND	10.0	"							
Naphthalene	3/15/21 9:30	ND	10.0	"							
Pentachlorophenol	3/15/21 9:30	ND	10.0	"							
Phenanthrene	3/15/21 9:30	ND	10.0	"							
Pyrene	3/15/21 9:30	ND	10.0	"							
2,4,6-Trichlorophenol	3/15/21 9:30	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*4.73*		*"*	*10.0*		*47.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.07*		*"*	*5.00*		*61.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.80*		*"*	*10.0*		*58.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.65*		*"*	*5.00*		*53.0*	*10-103*			
Surrogate: Phenol-d5		*5.72*		*"*	*10.0*		*57.2*	*10-105*			
Surrogate: Terphenyl-dl4		*3.39*		*"*	*5.00*		*67.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
LCS (1C12007-BS1)											
Acenaphthene	3/15/21 10:07	6.28	10.0	ug/L	10.0		62.8	45.5-108			
Acenaphthylene	3/15/21 10:07	6.46	10.0	"	10.0		64.6	46.4-114			
Anthracene	3/15/21 10:07	6.03	10.0	"	10.0		60.3	47-106			
Benzo (a) anthracene	3/15/21 10:07	5.48	10.0	"	10.0		54.8	50.8-105			
Benzo (b) fluoranthene	3/15/21 10:07	6.00	10.0	"	10.0		60.0	47-109			
Benzo (k) fluoranthene	3/15/21 10:07	6.02	10.0	"	10.0		60.2	44-111			
Benzo (a) pyrene	3/15/21 10:07	6.34	10.0	"	10.0		63.4	52.9-103			
Bis(2-ethylhexyl)phthalate	3/15/21 10:07	4.96	10.0	"	10.0		49.6	36.4-121			
Carbazole	3/15/21 10:07	6.57	10.0	"	10.0		65.7	25-172			
4-Chloro-3-methylphenol	3/15/21 10:07	5.86	10.0	"	10.0		58.6	46.4-108			
Chrysene	3/15/21 10:07	5.60	10.0	"	10.0		56.0	46.6-100			
Dibenz (a,h) anthracene	3/15/21 10:07	6.18	10.0	"	10.0		61.8	46.7-102			
Dibenzofuran	3/15/21 10:07	6.26	10.0	"	10.0		62.6	45.8-105			
2,4-Dimethylphenol	3/15/21 10:07	6.42	10.0	"	10.0		64.2	41.6-101			
2,4-Dinitrophenol	3/15/21 10:07	4.07	10.0	"	10.0		40.7	10-131			
Di-n-octyl phthalate	3/15/21 10:07	5.16	10.0	"	10.0		51.6	38.6-123			
Fluoranthene	3/15/21 10:07	5.82	10.0	"	10.0		58.2	44.9-114			
Fluorene	3/15/21 10:07	6.45	10.0	"	10.0		64.5	45.6-107			
Indeno (1,2,3-cd) pyrene	3/15/21 10:07	5.96	10.0	"	10.0		59.6	45.8-104			
2-Methylnaphthalene	3/15/21 10:07	5.81	10.0	"	10.0		58.1	44.2-104			
2-Methylphenol	3/15/21 10:07	6.06	10.0	"	10.0		60.6	44.5-103			
3 & 4-Methylphenol	3/15/21 10:07	12.5	10.0	"	20.0		62.4	11-149			
Naphthalene	3/15/21 10:07	6.05	10.0	"	10.0		60.5	45-100			
Pentachlorophenol	3/15/21 10:07	4.84	10.0	"	10.0		48.4	17.4-124			
Phenanthrene	3/15/21 10:07	6.02	10.0	"	10.0		60.2	49.2-107			
Pyrene	3/15/21 10:07	5.83	10.0	"	10.0		58.3	31.7-124			
2,4,6-Trichlorophenol	3/15/21 10:07	5.69	10.0	"	10.0		56.9	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*5.90*		*"*	*10.0*		*59.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.16*		*"*	*5.00*		*63.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.82*		*"*	*10.0*		*58.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.32*		*"*	*5.00*		*66.4*	*10-103*			
Surrogate: Phenol-d5		*6.23*		*"*	*10.0*		*62.3*	*10-105*			
Surrogate: Terphenyl-dl4		*2.91*		*"*	*5.00*		*58.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C12007-BSD1)											
Acenaphthene	3/15/21 10:45	6.74	10.0	ug/L	10.0		67.4	45.5-108	7.07	40	
Acenaphthylene	3/15/21 10:45	6.96	10.0	"	10.0		69.6	46.4-114	7.45	40	
Anthracene	3/15/21 10:45	6.54	10.0	"	10.0		65.4	47-106	8.11	40	
Benzo (a) anthracene	3/15/21 10:45	5.85	10.0	"	10.0		58.5	50.8-105	6.53	40	
Benzo (b) fluoranthene	3/15/21 10:45	6.60	10.0	"	10.0		66.0	47-109	9.52	40	
Benzo (k) fluoranthene	3/15/21 10:45	6.64	10.0	"	10.0		66.4	44-111	9.79	40	
Benzo (a) pyrene	3/15/21 10:45	6.94	10.0	"	10.0		69.4	52.9-103	9.04	40	
Bis(2-ethylhexyl)phthalate	3/15/21 10:45	5.27	10.0	"	10.0		52.7	36.4-121	6.06	40	
Carbazole	3/15/21 10:45	7.02	10.0	"	10.0		70.2	25-172	6.62	40	
4-Chloro-3-methylphenol	3/15/21 10:45	6.40	10.0	"	10.0		64.0	46.4-108	8.81	40	
Chrysene	3/15/21 10:45	6.11	10.0	"	10.0		61.1	46.6-100	8.71	40	
Dibenz (a,h) anthracene	3/15/21 10:45	6.81	10.0	"	10.0		68.1	46.7-102	9.70	40	
Dibenzofuran	3/15/21 10:45	6.62	10.0	"	10.0		66.2	45.8-105	5.59	40	
2,4-Dimethylphenol	3/15/21 10:45	7.37	10.0	"	10.0		73.7	41.6-101	13.8	40	
2,4-Dinitrophenol	3/15/21 10:45	4.57	10.0	"	10.0		45.7	10-131	11.6	40	
Di-n-octyl phthalate	3/15/21 10:45	5.28	10.0	"	10.0		52.8	38.6-123	2.30	40	
Fluoranthene	3/15/21 10:45	6.27	10.0	"	10.0		62.7	44.9-114	7.44	40	
Fluorene	3/15/21 10:45	6.75	10.0	"	10.0		67.5	45.6-107	4.55	40	
Indeno (1,2,3-cd) pyrene	3/15/21 10:45	6.64	10.0	"	10.0		66.4	45.8-104	10.8	40	
2-Methylnaphthalene	3/15/21 10:45	6.31	10.0	"	10.0		63.1	44.2-104	8.25	40	
2-Methylphenol	3/15/21 10:45	6.68	10.0	"	10.0		66.8	44.5-103	9.73	40	
3 & 4-Methylphenol	3/15/21 10:45	13.5	10.0	"	20.0		67.7	11-149	8.23	40	
Naphthalene	3/15/21 10:45	6.38	10.0	"	10.0		63.8	45-100	5.31	40	
Pentachlorophenol	3/15/21 10:45	5.19	10.0	"	10.0		51.9	17.4-124	6.98	40	
Phenanthrene	3/15/21 10:45	6.46	10.0	"	10.0		64.6	49.2-107	7.05	40	
Pyrene	3/15/21 10:45	6.75	10.0	"	10.0		67.5	31.7-124	14.6	40	
2,4,6-Trichlorophenol	3/15/21 10:45	6.02	10.0	"	10.0		60.2	41.7-110	5.64	40	
Surrogate: 2,4,6-Tribromophenol		*5.78*		*"*	*10.0*		*57.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.25*		*"*	*5.00*		*65.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.98*		*"*	*10.0*		*59.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.44*		*"*	*5.00*		*68.8*	*10-103*			
Surrogate: Phenol-d5		*6.37*		*"*	*10.0*		*63.7*	*10-105*			
Surrogate: Terphenyl-dl4		*3.07*		*"*	*5.00*		*61.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C12007-DUP1)			**Source: 2103182-09**								
Acenaphthene	3/15/21 16:25	ND	10.3	ug/L		ND				45	
Acenaphthylene	3/15/21 16:25	ND	10.3	"		ND				45	
Anthracene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (a) anthracene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (b) fluoranthene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (k) fluoranthene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (a) pyrene	3/15/21 16:25	ND	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/15/21 16:25	ND	10.3	"		ND				45	
Carbazole	3/15/21 16:25	ND	10.3	"		ND				45	
4-Chloro-3-methylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
Chrysene	3/15/21 16:25	ND	10.3	"		ND				45	
Dibenz (a,h) anthracene	3/15/21 16:25	ND	10.3	"		ND				45	
Dibenzofuran	3/15/21 16:25	ND	10.3	"		ND				45	
2,4-Dimethylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
2,4-Dinitrophenol	3/15/21 16:25	ND	10.3	"		ND				45	
Di-n-octyl phthalate	3/15/21 16:25	ND	10.3	"		ND				45	
Fluoranthene	3/15/21 16:25	ND	10.3	"		ND				45	
Fluorene	3/15/21 16:25	ND	10.3	"		ND				45	
Indeno (1,2,3-cd) pyrene	3/15/21 16:25	ND	10.3	"		ND				45	
2-Methylnaphthalene	3/15/21 16:25	ND	10.3	"		ND				45	
2-Methylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
3 & 4-Methylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
Naphthalene	3/15/21 16:25	ND	10.3	"		ND				45	
Pentachlorophenol	3/15/21 16:25	ND	10.3	"		ND				45	
Phenanthrene	3/15/21 16:25	ND	10.3	"		ND				45	
Pyrene	3/15/21 16:25	ND	10.3	"		ND				45	
2,4,6-Trichlorophenol	3/15/21 16:25	ND	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*4.90*		*"*	*10.3*		*47.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.48*		*"*	*5.15*		*48.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.85*		*"*	*10.3*		*27.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.10*		*"*	*5.15*		*40.8*	*10-103*			
Surrogate: Phenol-d5		*1.75*		*"*	*10.3*		*17.0*	*10-105*			
Surrogate: Terphenyl-dl4		*2.85*		*"*	*5.15*		*55.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C12007-MS1)			**Source: 2103182-09**								
Acenaphthene	3/15/21 17:03	5.93	10.9	ug/L	10.9	ND	54.6	21.2-106			
Acenaphthylene	3/15/21 17:03	6.37	10.9	"	10.9	ND	58.6	23.7-113			
Anthracene	3/15/21 17:03	6.10	10.9	"	10.9	ND	56.1	32.7-100			
Benzo (a) anthracene	3/15/21 17:03	5.97	10.9	"	10.9	ND	54.9	35.6-101			
Benzo (b) fluoranthene	3/15/21 17:03	5.91	10.9	"	10.9	ND	54.4	38.4-100			
Benzo (k) fluoranthene	3/15/21 17:03	5.93	10.9	"	10.9	ND	54.6	29.6-107			
Benzo (a) pyrene	3/15/21 17:03	6.54	10.9	"	10.9	ND	60.2	32.7-102			
Bis(2-ethylhexyl)phthalate	3/15/21 17:03	5.95	10.9	"	10.9	ND	54.7	28.4-112			
Carbazole	3/15/21 17:03	6.96	10.9	"	10.9	ND	64.0	24.9-167			
4-Chloro-3-methylphenol	3/15/21 17:03	6.48	10.9	"	10.9	ND	59.6	20.7-115			
Chrysene	3/15/21 17:03	5.89	10.9	"	10.9	ND	54.2	30.8-100			
Dibenz (a,h) anthracene	3/15/21 17:03	6.08	10.9	"	10.9	ND	55.9	32.3-103			
Dibenzofuran	3/15/21 17:03	6.13	10.9	"	10.9	ND	56.4	29.1-105			
2,4-Dimethylphenol	3/15/21 17:03	6.84	10.9	"	10.9	ND	62.9	15.6-114			
2,4-Dinitrophenol	3/15/21 17:03	4.30	10.9	"	10.9	ND	39.6	10-110			
Di-n-octyl phthalate	3/15/21 17:03	6.45	10.9	"	10.9	ND	59.3	19.2-118			
Fluoranthene	3/15/21 17:03	6.62	10.9	"	10.9	ND	60.9	31.9-106			
Fluorene	3/15/21 17:03	6.30	10.9	"	10.9	ND	58.0	28.1-104			
Indeno (1,2,3-cd) pyrene	3/15/21 17:03	5.97	10.9	"	10.9	ND	54.9	29.6-105			
2-Methylnaphthalene	3/15/21 17:03	5.32	10.9	"	10.9	ND	48.9	18.5-106			
2-Methylphenol	3/15/21 17:03	5.22	10.9	"	10.9	ND	48.0	10-106			
3 & 4-Methylphenol	3/15/21 17:03	9.65	10.9	"	21.7	ND	44.4	10-139			
Naphthalene	3/15/21 17:03	5.26	10.9	"	10.9	ND	48.4	17-100			
Pentachlorophenol	3/15/21 17:03	6.41	10.9	"	10.9	ND	59.0	10-119			
Phenanthrene	3/15/21 17:03	6.08	10.9	"	10.9	ND	55.9	34.8-106			
Pyrene	3/15/21 17:03	6.36	10.9	"	10.9	ND	58.5	10-127			
2,4,6-Trichlorophenol	3/15/21 17:03	6.35	10.9	"	10.9	ND	58.4	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*6.73*		*"*	*10.9*		*61.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.84*		*"*	*5.43*		*52.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.37*		*"*	*10.9*		*31.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.90*		*"*	*5.43*		*53.4*	*10-103*			
Surrogate: Phenol-d5		*2.25*		*"*	*10.9*		*20.7*	*10-105*			
Surrogate: Terphenyl-dl4		*2.83*		*"*	*5.43*		*52.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
Blank (1C12027-BLK1)											
Acenaphthene	3/16/21 11:10	ND	10.0	ug/L							
Acenaphthylene	3/16/21 11:10	ND	10.0	"							
Anthracene	3/16/21 11:10	ND	10.0	"							
Benzo (a) anthracene	3/16/21 11:10	ND	10.0	"							
Benzo (b) fluoranthene	3/16/21 11:10	ND	10.0	"							
Benzo (k) fluoranthene	3/16/21 11:10	ND	10.0	"							
Benzo (a) pyrene	3/16/21 11:10	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/16/21 11:10	ND	10.0	"							
Carbazole	3/16/21 11:10	ND	10.0	"							
4-Chloro-3-methylphenol	3/16/21 11:10	ND	10.0	"							
Chrysene	3/16/21 11:10	ND	10.0	"							
Dibenz (a,h) anthracene	3/16/21 11:10	ND	10.0	"							
Dibenzofuran	3/16/21 11:10	ND	10.0	"							
2,4-Dimethylphenol	3/16/21 11:10	ND	10.0	"							
2,4-Dinitrophenol	3/16/21 11:10	ND	10.0	"							
Di-n-octyl phthalate	3/16/21 11:10	ND	10.0	"							
Fluoranthene	3/16/21 11:10	ND	10.0	"							
Fluorene	3/16/21 11:10	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/16/21 11:10	ND	10.0	"							
2-Methylnaphthalene	3/16/21 11:10	ND	10.0	"							
2-Methylphenol	3/16/21 11:10	ND	10.0	"							
3 & 4-Methylphenol	3/16/21 11:10	ND	10.0	"							
Naphthalene	3/16/21 11:10	ND	10.0	"							
Pentachlorophenol	3/16/21 11:10	ND	10.0	"							
Phenanthrene	3/16/21 11:10	ND	10.0	"							
Pyrene	3/16/21 11:10	ND	10.0	"							
2,4,6-Trichlorophenol	3/16/21 11:10	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*77.5*		*"*	*100*		*77.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.5*		*"*	*50.0*		*70.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*60.9*		*"*	*100*		*60.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*36.6*		*"*	*50.0*		*73.2*	*10-103*			
Surrogate: Phenol-d5		*57.0*		*"*	*100*		*57.0*	*10-105*			
Surrogate: Terphenyl-dl4		*35.9*		*"*	*50.0*		*71.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
LCS (1C12027-BS1)											
Acenaphthene	3/16/21 14:00	73.4	10.0	ug/L	100		73.4	45.5-108			
Acenaphthylene	3/16/21 14:00	67.6	10.0	"	100		67.6	46.4-114			
Anthracene	3/16/21 14:00	63.7	10.0	"	100		63.7	47-106			
Benzo (a) anthracene	3/16/21 14:00	70.3	10.0	"	100		70.3	50.8-105			
Benzo (b) fluoranthene	3/16/21 14:00	72.9	10.0	"	100		72.9	47-109			
Benzo (k) fluoranthene	3/16/21 14:00	75.5	10.0	"	100		75.5	44-111			
Benzo (a) pyrene	3/16/21 14:00	73.9	10.0	"	100		73.9	52.9-103			
Bis(2-ethylhexyl)phthalate	3/16/21 14:00	66.4	10.0	"	100		66.4	36.4-121			
Carbazole	3/16/21 14:00	97.9	10.0	"	100		97.9	25-172			
4-Chloro-3-methylphenol	3/16/21 14:00	82.8	10.0	"	100		82.8	46.4-108			
Chrysene	3/16/21 14:00	68.2	10.0	"	100		68.2	46.6-100			
Dibenz (a,h) anthracene	3/16/21 14:00	68.7	10.0	"	100		68.7	46.7-102			
Dibenzofuran	3/16/21 14:00	68.0	10.0	"	100		68.0	45.8-105			
2,4-Dimethylphenol	3/16/21 14:00	72.9	10.0	"	100		72.9	41.6-101			
2,4-Dinitrophenol	3/16/21 14:00	74.9	10.0	"	100		74.9	10-131			
Di-n-octyl phthalate	3/16/21 14:00	71.4	10.0	"	100		71.4	38.6-123			
Fluoranthene	3/16/21 14:00	61.9	10.0	"	100		61.9	44.9-114			
Fluorene	3/16/21 14:00	71.3	10.0	"	100		71.3	45.6-107			
Indeno (1,2,3-cd) pyrene	3/16/21 14:00	68.2	10.0	"	100		68.2	45.8-104			
2-Methylnaphthalene	3/16/21 14:00	73.7	10.0	"	100		73.7	44.2-104			
2-Methylphenol	3/16/21 14:00	73.5	10.0	"	100		73.5	44.5-103			
3 & 4-Methylphenol	3/16/21 14:00	142	10.0	"	200		70.9	11-149			
Naphthalene	3/16/21 14:00	61.4	10.0	"	100		61.4	45-100			
Pentachlorophenol	3/16/21 14:00	56.8	10.0	"	100		56.8	17.4-124			
Phenanthrene	3/16/21 14:00	64.5	10.0	"	100		64.5	49.2-107			
Pyrene	3/16/21 14:00	59.0	10.0	"	100		59.0	31.7-124			
2,4,6-Trichlorophenol	3/16/21 14:00	72.3	10.0	"	100		72.3	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*69.7*		*"*	*100*		*69.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*36.4*		*"*	*50.0*		*72.7*	*14.7-104*			
Surrogate: 2-Fluorophenol		*65.0*		*"*	*100*		*65.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*39.7*		*"*	*50.0*		*79.3*	*10-103*			
Surrogate: Phenol-d5		*66.6*		*"*	*100*		*66.6*	*10-105*			
Surrogate: Terphenyl-dl4		*38.4*		*"*	*50.0*		*76.9*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C12027-BSD1)											
Acenaphthene	3/16/21 14:35	67.7	10.0	ug/L	100		67.7	45.5-108	8.00	40	
Acenaphthylene	3/16/21 14:35	66.4	10.0	"	100		66.4	46.4-114	1.81	40	
Anthracene	3/16/21 14:35	62.8	10.0	"	100		62.8	47-106	1.47	40	
Benzo (a) anthracene	3/16/21 14:35	62.2	10.0	"	100		62.2	50.8-105	12.3	40	
Benzo (b) fluoranthene	3/16/21 14:35	52.9	10.0	"	100		52.9	47-109	31.8	40	
Benzo (k) fluoranthene	3/16/21 14:35	60.9	10.0	"	100		60.9	44-111	21.4	40	
Benzo (a) pyrene	3/16/21 14:35	56.5	10.0	"	100		56.5	52.9-103	26.8	40	
Bis(2-ethylhexyl)phthalate	3/16/21 14:35	60.5	10.0	"	100		60.5	36.4-121	9.22	40	
Carbazole	3/16/21 14:35	86.9	10.0	"	100		86.9	25-172	11.9	40	
4-Chloro-3-methylphenol	3/16/21 14:35	70.4	10.0	"	100		70.4	46.4-108	16.2	40	
Chrysene	3/16/21 14:35	63.9	10.0	"	100		63.9	46.6-100	6.40	40	
Dibenz (a,h) anthracene	3/16/21 14:35	54.0	10.0	"	100		54.0	46.7-102	24.0	40	
Dibenzofuran	3/16/21 14:35	64.8	10.0	"	100		64.8	45.8-105	4.71	40	
2,4-Dimethylphenol	3/16/21 14:35	64.1	10.0	"	100		64.1	41.6-101	12.8	40	
2,4-Dinitrophenol	3/16/21 14:35	64.6	10.0	"	100		64.6	10-131	14.7	40	
Di-n-octyl phthalate	3/16/21 14:35	57.0	10.0	"	100		57.0	38.6-123	22.3	40	
Fluoranthene	3/16/21 14:35	56.7	10.0	"	100		56.7	44.9-114	8.76	40	
Fluorene	3/16/21 14:35	65.7	10.0	"	100		65.7	45.6-107	8.23	40	
Indeno (1,2,3-cd) pyrene	3/16/21 14:35	53.8	10.0	"	100		53.8	45.8-104	23.6	40	
2-Methylnaphthalene	3/16/21 14:35	66.4	10.0	"	100		66.4	44.2-104	10.4	40	
2-Methylphenol	3/16/21 14:35	69.0	10.0	"	100		69.0	44.5-103	6.37	40	
3 & 4-Methylphenol	3/16/21 14:35	133	10.0	"	200		66.6	11-149	6.24	40	
Naphthalene	3/16/21 14:35	58.0	10.0	"	100		58.0	45-100	5.74	40	
Pentachlorophenol	3/16/21 14:35	44.8	10.0	"	100		44.8	17.4-124	23.6	40	
Phenanthrene	3/16/21 14:35	63.3	10.0	"	100		63.3	49.2-107	1.86	40	
Pyrene	3/16/21 14:35	56.4	10.0	"	100		56.4	31.7-124	4.59	40	
2,4,6-Trichlorophenol	3/16/21 14:35	71.7	10.0	"	100		71.7	41.7-110	0.917	40	
Surrogate: 2,4,6-Tribromophenol		*61.6*		"	*100*		*61.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*36.7*		"	*50.0*		*73.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*58.8*		"	*100*		*58.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*37.3*		"	*50.0*		*74.6*	*10-103*			
Surrogate: Phenol-d5		*65.8*		"	*100*		*65.8*	*10-105*			
Surrogate: Terphenyl-dl4		*35.3*		"	*50.0*		*70.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C12027-DUP1)			**Source: 2103182-07**								
Acenaphthene	3/17/21 9:13	142	10.3	ug/L		200			34.4	45	
Acenaphthylene	3/17/21 9:13	ND	10.3	"		ND				45	
Anthracene	3/17/21 9:13	12.9	10.3	"		15.9			21.0	45	
Benzo (a) anthracene	3/17/21 9:13	ND	10.3	"		ND				45	
Benzo (b) fluoranthene	3/17/21 9:13	ND	10.3	"		ND				45	
Benzo (k) fluoranthene	3/17/21 9:13	ND	10.3	"		ND				45	
Benzo (a) pyrene	3/17/21 9:13	ND	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/17/21 9:13	ND	10.3	"		ND				45	
Carbazole	3/17/21 9:13	57.6	10.3	"		81.1			33.9	45	
4-Chloro-3-methylphenol	3/17/21 9:13	ND	10.3	"		ND				45	
Chrysene	3/17/21 9:13	ND	10.3	"		ND				45	
Dibenz (a,h) anthracene	3/17/21 9:13	ND	10.3	"		ND				45	
Dibenzofuran	3/17/21 9:13	70.9	10.3	"		89.1			22.8	45	
2,4-Dimethylphenol	3/17/21 9:13	13.2	10.3	"		15.7			17.5	45	
2,4-Dinitrophenol	3/17/21 9:13	ND	10.3	"		ND				45	
Di-n-octyl phthalate	3/17/21 9:13	ND	10.3	"		ND				45	
Fluoranthene	3/17/21 9:13	15.9	10.3	"		45.7			96.9	45	P3
Fluorene	3/17/21 9:13	78.2	10.3	"		111			35.0	45	
Indeno (1,2,3-cd) pyrene	3/17/21 9:13	ND	10.3	"		ND				45	
2-Methylnaphthalene	3/17/21 9:13	66.6	10.3	"		75.2			12.2	45	
2-Methylphenol	3/17/21 9:13	ND	10.3	"		ND				45	
3 & 4-Methylphenol	3/17/21 9:13	ND	10.3	"		ND				45	
Naphthalene	3/17/21 9:13	63.7	10.3	"		55.9			13.1	45	
Pentachlorophenol	3/17/21 9:13	ND	10.3	"		ND				45	
Phenanthrene	3/17/21 9:13	57.1	10.3	"		58.7			2.72	45	
Pyrene	3/17/21 9:13	10.3	10.3	"		28.3			93.2	45	P3
2,4,6-Trichlorophenol	3/17/21 9:13	ND	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*39.0*		*"*	*103*		*37.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*22.9*		*"*	*51.5*		*44.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*26.5*		*"*	*103*		*25.7*	*10-100*			
Surrogate: Nitrobenzene-d5		*23.1*		*"*	*51.5*		*44.9*	*10-103*			
Surrogate: Phenol-d5		*15.9*		*"*	*103*		*15.4*	*10-105*			
Surrogate: Terphenyl-dl4		*17.7*		*"*	*51.5*		*34.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C12027-MS1)			**Source: 2103182-07**								
Acenaphthene	3/16/21 16:51	199	10.7	ug/L	107	200	NR	21.2-106			M5
Acenaphthylene	3/16/21 16:51	67.2	10.7	"	107	ND	62.8	23.7-113			
Anthracene	3/16/21 16:51	59.6	10.7	"	107	15.9	40.8	32.7-100			
Benzo (a) anthracene	3/16/21 16:51	53.9	10.7	"	107	ND	50.4	35.6-101			
Benzo (b) fluoranthene	3/16/21 16:51	48.0	10.7	"	107	ND	44.9	38.4-100			
Benzo (k) fluoranthene	3/16/21 16:51	54.5	10.7	"	107	ND	51.0	29.6-107			
Benzo (a) pyrene	3/16/21 16:51	50.6	10.7	"	107	ND	47.3	32.7-102			
Bis(2-ethylhexyl)phthalate	3/16/21 16:51	53.0	10.7	"	107	ND	49.6	28.4-112			
Carbazole	3/16/21 16:51	125	10.7	"	107	81.1	41.5	24.9-167			
4-Chloro-3-methylphenol	3/16/21 16:51	73.6	10.7	"	107	ND	68.8	20.7-115			
Chrysene	3/16/21 16:51	55.5	10.7	"	107	ND	51.9	30.8-100			
Dibenz (a,h) anthracene	3/16/21 16:51	47.3	10.7	"	107	ND	44.3	32.3-103			
Dibenzofuran	3/16/21 16:51	123	10.7	"	107	89.1	32.0	29.1-105			
2,4-Dimethylphenol	3/16/21 16:51	78.4	10.7	"	107	15.7	58.6	15.6-114			
2,4-Dinitrophenol	3/16/21 16:51	68.0	10.7	"	107	ND	63.5	10-110			
Di-n-octyl phthalate	3/16/21 16:51	52.3	10.7	"	107	ND	48.9	19.2-118			
Fluoranthene	3/16/21 16:51	61.1	10.7	"	107	45.7	14.3	31.9-106			M2
Fluorene	3/16/21 16:51	135	10.7	"	107	111	22.4	28.1-104			M5
Indeno (1,2,3-cd) pyrene	3/16/21 16:51	47.6	10.7	"	107	ND	44.5	29.6-105			
2-Methylnaphthalene	3/16/21 16:51	124	10.7	"	107	75.2	45.2	18.5-106			
2-Methylphenol	3/16/21 16:51	56.2	10.7	"	107	ND	52.5	10-106			
3 & 4-Methylphenol	3/16/21 16:51	103	10.7	"	214	ND	48.1	10-139			
Naphthalene	3/16/21 16:51	104	10.7	"	107	55.9	45.4	17-100			
Pentachlorophenol	3/16/21 16:51	50.6	10.7	"	107	ND	47.3	10-119			
Phenanthrene	3/16/21 16:51	96.1	10.7	"	107	58.7	35.0	34.8-106			
Pyrene	3/16/21 16:51	58.7	10.7	"	107	28.3	28.4	10-127			
2,4,6-Trichlorophenol	3/16/21 16:51	60.6	10.7	"	107	ND	56.7	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*52.9*		*"*	*107*		*49.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*27.5*		*"*	*53.5*		*51.5*	*14.7-104*			
Surrogate: 2-Fluorophenol		*32.7*		*"*	*107*		*30.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*30.6*		*"*	*53.5*		*57.1*	*10-103*			
Surrogate: Phenol-d5		*23.1*		*"*	*107*		*21.6*	*10-105*			
Surrogate: Terphenyl-dl4		*24.1*		*"*	*53.5*		*45.1*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Blank (1C12007-BLK1)											
Pentachlorophenol	3/15/21 9:30	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*4.73*		*"*	*10.0*		*47.3*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.80*		*"*	*10.0*		*58.0*	*12.7-100*			
Surrogate: Phenol-d5		*5.72*		*"*	*10.0*		*57.2*	*16.1-100*			
LCS (1C12007-BS1)											
Pentachlorophenol	3/15/21 10:07	4.84	1.00	ug/L	10.0		48.4	10-144			
Surrogate: 2,4,6-Tribromophenol		*5.90*		*"*	*10.0*		*59.0*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.82*		*"*	*10.0*		*58.2*	*12.7-100*			
Surrogate: Phenol-d5		*6.23*		*"*	*10.0*		*62.3*	*16.1-100*			
LCS Dup (1C12007-BSD1)											
Pentachlorophenol	3/15/21 10:45	5.19	1.00	ug/L	10.0		51.9	10-144	6.98	40	
Surrogate: 2,4,6-Tribromophenol		*5.78*		*"*	*10.0*		*57.8*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.98*		*"*	*10.0*		*59.8*	*12.7-100*			
Surrogate: Phenol-d5		*6.37*		*"*	*10.0*		*63.7*	*16.1-100*			
Duplicate (1C12007-DUP1)			**Source: 2103182-09**								
Pentachlorophenol	3/15/21 16:25	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*4.90*		*"*	*10.3*		*47.5*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.85*		*"*	*10.3*		*27.6*	*12.7-100*			
Surrogate: Phenol-d5		*1.75*		*"*	*10.3*		*17.0*	*16.1-100*			
Matrix Spike (1C12007-MS1)			**Source: 2103182-09**								
Pentachlorophenol	3/15/21 17:03	6.41	1.00	ug/L	10.9	ND	59.0	20.7-138			
Surrogate: 2,4,6-Tribromophenol		*6.73*		*"*	*10.9*		*61.9*	*16.2-100*			
Surrogate: 2-Fluorophenol		*3.37*		*"*	*10.9*		*31.0*	*12.7-100*			
Surrogate: Phenol-d5		*2.25*		*"*	*10.9*		*20.7*	*16.1-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11056 - EPA 5030B											
Blank (1C11056-BLK1)											
Benzene	3/10/21 10:28	ND	5.00	ug/L							
Ethylbenzene	3/10/21 10:28	ND	5.00	"							
Surrogate: Dibromofluoromethane		*48.9*		"	*50.0*		*97.8*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.1*		"	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8		*49.1*		"	*50.0*		*98.2*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.6*		"	*50.0*		*103*	*70-130*			
Blank (1C11056-BLK2)											
Benzene	3/11/21 12:16	ND	5.00	ug/L							
Ethylbenzene	3/11/21 12:16	ND	5.00	"							
Surrogate: Dibromofluoromethane		*58.3*		"	*50.0*		*117*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.3*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*50.7*		"	*50.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.4*		"	*50.0*		*103*	*70-130*			
LCS (1C11056-BS1)											
Benzene	3/10/21 11:58	18.7	5.00	ug/L	20.0		93.5	70.8-137			
Ethylbenzene	3/10/21 11:58	19.0	5.00	"	20.0		94.9	73.6-139			
Surrogate: Dibromofluoromethane		*48.9*		"	*50.0*		*97.7*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*54.5*		"	*50.0*		*109*	*70-130*			
Surrogate: Toluene-d8		*42.2*		"	*50.0*		*84.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*62.0*		"	*50.0*		*124*	*70-130*			
LCS (1C11056-BS2)											
Benzene	3/11/21 12:43	23.8	5.00	ug/L	20.0		119	70.8-137			
Ethylbenzene	3/11/21 12:43	24.8	5.00	"	20.0		124	73.6-139			
Surrogate: Dibromofluoromethane		*56.9*		"	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*55.2*		"	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8		*51.8*		"	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.9*		"	*50.0*		*104*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11056 - EPA 5030B											
LCS Dup (1C11056-BSD1)											
Benzene	3/10/21 12:21	17.6	5.00	ug/L	20.0		88.0	70.8-137	6.06	30	
Ethylbenzene	3/10/21 12:21	17.8	5.00	"	20.0		89.2	73.6-139	6.25	30	
Surrogate: Dibromofluoromethane		*50.5*		"	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.2*		"	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8		*47.9*		"	*50.0*		*95.8*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.5*		"	*50.0*		*105*	*70-130*			
LCS Dup (1C11056-BSD2)											
Benzene	3/11/21 13:09	23.9	5.00	ug/L	20.0		120	70.8-137	0.503	30	
Ethylbenzene	3/11/21 13:09	25.3	5.00	"	20.0		126	73.6-139	1.80	30	
Surrogate: Dibromofluoromethane		*55.5*		"	*50.0*		*111*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.8*		"	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8		*52.1*		"	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.6*		"	*50.0*		*105*	*70-130*			
Matrix Spike (1C11056-MS1)			**Source: 2103182-07**								
Benzene	3/10/21 16:48	21.8	5.00	ug/L	20.0	ND	109	76.8-144			
Ethylbenzene	3/10/21 16:48	27.8	5.00	"	20.0	6.23	108	72-147			
Surrogate: Dibromofluoromethane		*50.0*		"	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.3*		"	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8		*47.3*		"	*50.0*		*94.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.4*		"	*50.0*		*105*	*70-130*			
Matrix Spike Dup (1C11056-MSD1)			**Source: 2103182-07**								
Benzene	3/10/21 17:12	22.5	5.00	ug/L	20.0	ND	112	76.8-144	2.94	35	
Ethylbenzene	3/10/21 17:12	28.6	5.00	"	20.0	6.23	112	72-147	2.77	35	
Surrogate: Dibromofluoromethane		*50.9*		"	*50.0*		*102*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.8*		"	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8		*47.7*		"	*50.0*		*95.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.3*		"	*50.0*		*107*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:21

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/24/2021 08:21

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2021*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2021*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2021*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2021*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi			*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:21

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Cristina D Vargas	CDV
Charles L Vorhoff	CLV
Christina L Vorhoff	CRLV
Gayle M. Sparling	GMS
Kristy L. Pierce	KLP
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WC # 2103182

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	OCEAN SPRINGS State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days
__Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
RC-2	3-9-21/13:15	W	7	G	X	X	X	X	X	X	X
RC-1A	3-9-21/14:15	W	7	G	X	X	X	X	X	X	X
RW-8A	3-9-21/12:45	W	9	G	X	X	X	X	X	X	X
B-97	3-9-21/13:45	W	9	G	X	X	X	X	X	X	X
RC-1	3-9-21/15:00	W	7	G	X	X	X	X	X	X	X
RW-11	3-9-21/10:10	W	6	G	X	X	X	X		X	X
T-2	3-9-21/9:30	W	11	G	X	X	X	X	X	X	X
RW-12	3-9-21/10:20	W	6	G	X	X	X	X		X	X
RW-4	3-9-21/12:10	W	9	G	X	X	X	X	X	X	X
RW-5	3-9-21/12:30	W	9	G	X	X	X	X	X	X	X
RW-13	3-9-21/10:30	W	6	G	X	X	X	X		X	X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer#_____ Cooler # 4
Date & Time _____ By: _____
Receipt Temp Corrected(°C)
Sample____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		ENS	3-9-21	15:45
Received by	Sarah Tomek	Sarah Tomek	MM	3/9/21	1545
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 0.6°C
client cooler #2 1.8°C
client cooler #3 0.6°C
client cooler #4 0.7°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2103182

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	OCEAN SPRINGS State: MS Zip: 30404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days
x Normal
__ Next Day*
__ 2nd Day*
__ Other*_____
*All rush order requests must be prior approved.
__ Phone
__ Mail
__ Fax
__ Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
RW-2	3-9-21/8:54	W	9	G	X	X	X	X	X	X	X
RW-1	3-9-21/9:00	W	9	G	X	X	X	X	X	X	X
TBV#6666	3-9-21/8:54	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer#_____ Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank_____ Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3-9-21	15:45
Received by	Sarah Tomek	Sarah Tomek	MM	3/9/21	1545
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

March 24, 2021

Ethan Allen

Work Order # : 2103217

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/11/2021 09:36. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-24	2103217-01	Water	03/10/2021 15:30	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/B-25	2103217-02	Water	03/10/2021 15:20	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/B-36	2103217-03	Water	03/10/2021 13:00	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/T-1	2103217-04	Water	03/10/2021 10:30	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/RW-7	2103217-05	Water	03/10/2021 10:00	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/RW-3B	2103217-06	Water	03/10/2021 09:45	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/RW-3A	2103217-07	Water	03/10/2021 09:30	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/RW-6	2103217-08	Water	03/10/2021 09:05	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/GC-Sump	2103217-09	Water	03/10/2021 08:50	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/RC-3	2103217-10	Water	03/10/2021 08:35	*Jeff Gonsoulin*	03/11/2021 09:36
Mobile/RC-2A	2103217-11	Water	03/10/2021 16:00	*Jeff Gonsoulin*	03/11/2021 09:36
Trip Blank TBV#6667	2103217-12	Water	03/10/2021 08:35	*Micro Methods*	03/11/2021 09:36

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Sample Receipt Conditions

Date/Time Received: 3/11/2021 9:36:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/11/2021 11:13:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Cooler ID: client cooler #2

Receipt Temperature: 1.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Cooler ID: client cooler #3

Receipt Temperature: 0.9 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Cooler ID: client cooler #4

Receipt Temperature: 0.8 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:24

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Sample 2103217-08 (RW-6) has no water (cresol). Sample cancelled and client will resample per E. Allen. 3/11/21 TKM

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:24

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sampe results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol

2103217-02[Mobile/B-25], 2103217-03[Mobile/B-36], 2103217-06[Mobile/RW-3B], 2103217-07[Mobile/RW-3A], 2103217-11[Mobile/RC-2A]

M1 MS/MSD Recovery limit exceeded.

Benzo (a) pyrene

1C11030-MS1

M2 MS/MSD Recovery below acceptable limit.

Fluoranthene

1C12027-MS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Acenaphthene, Benzo (a) pyrene, Fluorene

1C12027-MS1, 1C11030-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Fluoranthene, Pyrene

1C12027-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl, 2-Fluorophenol, Nitrobenzene-d5, Phenol-d5, Terphenyl-dl4

1C11030-DUP1, 1C11030-MS1, 2103217-04[Mobile/T-1]

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5, Terphenyl-dl4

2103217-07[Mobile/RW-3A], 2103217-09[Mobile/GC-Sump]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:24

Anions-SM 4110B 2011

Qualifiers:

E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

Chloride

1C11042-DUP1, 1C11042-MS1, 1C11042-MSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Chloride

1C11042-MS1, 1C11042-MSD1

RPD04 The RPD between the sample and sample duplicate exceeded the acceptance limits.

Chloride

1C11042-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

1C12030-DUP1, 1C12030-DUP2, 2103217-01[Mobile/B-24], 2103217-02[Mobile/B-25], 2103217-03[Mobile/B-36], 2103217-04[Mobile/T-1], 2103217-05[Mobile/RW-7], 2103217-06[Mobile/RW-3B], 2103217-07[Mobile/RW-3A], 2103217-09[Mobile/GC-Sump], 2103217-10[Mobile/RC-3], 2103217-11[Mobile/RC-2A]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-24

2103217-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 12:15	03/12/2021 02:14	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.101	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.101	*50.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.131	*65.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**77.3**	2.00	mg/L	4.0	1C11042	TKM	03/11/2021 13:00	03/11/2021 22:12	SM 4110B 2011	
Nitrate as N	**2.63**	2.00	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	1.0	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:02	Lachat 10-107-06-1-I	
pH	**5.54**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**403**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 16:20	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-24

2103217-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.2	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/15/2021 19:35	EPA 8270D	
Acenaphthylene	ND	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.34	*52.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.83	*55.8 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.17	*31.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.43	*47.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.91	*18.8 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	1.98	*39.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/15/2021 19:35	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.34	*52.6 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.17	*31.2 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.91	*18.8 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-24

2103217-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 13:51	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	57.4	*115 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	53.2	*106 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	51.4	*103 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	53.1	*106 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-25

2103217-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 12:15	03/12/2021 02:56	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.0808	*40.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.0808	*40.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.141	*70.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**477**	10.0	mg/L	20.0	1C11042	TKM	03/11/2021 13:00	03/12/2021 10:32	SM 4110B 2011	
Nitrate as N	ND	10.0	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	1.0	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:06	Lachat 10-107-06-1-I	
pH	**5.67**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1610**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 16:27	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-25

2103217-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.2	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/16/2021 13:34	EPA 8270D	
Acenaphthylene	ND	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.05	*49.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.50	*49.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.89	*28.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.09	*41.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.79	*17.6 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.72	*53.6 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/16/2021 13:34	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.05	*49.7 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.89	*28.5 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.79	*17.6 %*	*16.1-100*	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-25

2103217-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 14:18	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	57.6	*115 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.2	*110 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	51.9	*104 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	54.5	*109 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-36

2103217-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 12:15	03/12/2021 13:18	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.122	*60.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.162	*80.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.112	*55.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**68.3**	2.00	mg/L	4.0	1C11042	TKM	03/11/2021 13:00	03/11/2021 21:39	SM 4110B 2011	
Nitrate as N	ND	2.00	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	1.0	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:13	Lachat 10-107-06-1-I	
pH	**5.43**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**393**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 15:39	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00196**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-36

2103217-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/16/2021 14:12	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.61	*54.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.82	*54.8 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.48	*33.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.45	*47.6 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	2.10	*20.4 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	3.16	*61.4 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/16/2021 14:12	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.61	*54.4 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.48	*33.8 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	2.10	*20.4 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/B-36

2103217-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 14:56	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.9	*114 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.4	*109 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.5	*105 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	54.7	*109 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/T-1

2103217-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**1.13**	0.500	mg/L	1.0	1C11042	TKM	03/11/2021 13:00	03/11/2021 21:08	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	"	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:14	Lachat 10-107-06-1-I	
pH	**7.39**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**172**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	**0.00414**	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 16:33	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00406**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00449**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/T-1

2103217-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**722**	102	ug/L	10.0	1C12027	CRLV	03/12/2021 11:20	03/17/2021 15:28	EPA 8270D	
Acenaphthylene	ND	102	"	"	"	CRLV	"	"	"	
Anthracene	**275**	102	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**810**	102	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**713**	102	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**347**	102	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**491**	102	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	102	"	"	"	CRLV	"	"	"	
Carbazole	ND	102	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	102	"	"	"	CRLV	"	"	"	
Chrysene	**750**	102	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	1.0	"	CRLV	"	03/19/2021 05:18	"	
Dibenzofuran	**162**	102	"	10.0	"	CRLV	"	03/17/2021 15:28	"	
2,4-Dimethylphenol	ND	102	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	102	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	**26.9**	10.2	"	1.0	"	CRLV	"	03/19/2021 05:18	"	
Fluoranthene	**2570**	510	"	50.0	"	CRLV	"	03/19/2021 04:10	"	
Fluorene	**563**	102	"	10.0	"	CRLV	"	03/17/2021 15:28	"	
Indeno (1,2,3-cd) pyrene	**140**	102	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**232**	102	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	102	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	102	"	"	"	CRLV	"	"	"	
Naphthalene	ND	102	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	102	"	"	"	CRLV	"	"	"	
Phenanthrene	**1760**	510	"	50.0	"	CRLV	"	03/19/2021 04:10	"	
Pyrene	**2960**	510	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	102	"	10.0	"	CRLV	"	03/17/2021 15:28	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	45.4	*44.5 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	37.9	*74.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	9.69	*9.50 %*	*10-100*	"	CRLV	"	"	"	*SR01*
Nitrobenzene-d5	16.3	*32.0 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	8.16	*8.00 %*	*10-105*	"	CRLV	"	"	"	*SR01*
Terphenyl-dl4	23.7	*46.4 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D									
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 15:23	EPA 8260D
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/T-1

2103217-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.5	*113 %*	*70-130*	*1C16027*	SAD	*03/12/2021 08:00*	"	"	
1,2-Dichloroethane-d4	54.4	*109 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	51.9	*104 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	52.7	*105 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-7

2103217-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**3.08**	0.500	mg/L	1.0	1C11042	TKM	03/11/2021 13:00	03/11/2021 20:36	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	"	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:15	Lachat 10-107-06-1-I	
pH	**7.28**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**314**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	03/15/2021 19:30	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-7

2103217-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	63.3	*61.1 %*	*13.3-115*		*1C12027*	CRLV	*03/12/2021 11:20*	"	"	
2-Fluorobiphenyl	32.5	*62.8 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	34.2	*33.0 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	33.3	*64.4 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	21.8	*21.0 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	24.1	*46.5 %*	*10-110*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 15:50	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	57.3	*115 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.4	*111 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	52.4	*105 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	53.5	*107 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-3B

2103217-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C11030	CRLV	03/11/2021 12:15	03/12/2021 13:59	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.104	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.145	*70.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.114	*55.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**3.91**	0.500	mg/L	1.0	1C11042	TKM	03/11/2021 13:00	03/12/2021 21:10	SM 4110B 2011	
Nitrate as N	ND	0.500	"	"	"	TKM	"	"	"	
Ammonia as N	**6.76**	0.21	"	"	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:16	Lachat 10-107-06-1-I	
pH	**7.19**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**179**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 16:40	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-3B

2103217-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	1C12007	CRLV	03/12/2021 08:02	03/16/2021 14:50	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.91	*57.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.48	*48.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	3.01	*29.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.07	*40.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.98	*19.3 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.54	*49.6 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/16/2021 14:50	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.91	*57.6 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.01	*29.3 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.98	*19.3 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-3B

2103217-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 16:17	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.7	*113 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	53.5	*107 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	53.6	*107 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	53.8	*108 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-3A

2103217-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	**3.20**	0.62	ug/L	10.0	1C11030	CRLV	03/11/2021 12:15	03/12/2021 10:32	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.103	*50.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.412	*200 %*	*19.6-113*		"	CRLV	"	"	"	*SR06*
Terphenyl-dl4	0.206	*100 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**68.6**	2.50	mg/L	5.0	1C11042	TKM	03/11/2021 13:00	03/12/2021 22:14	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/11/2021 19:32	"	
Ammonia as N	**7.23**	0.21	"	"	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:17	Lachat 10-107-06-1-I	
pH	**7.23**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**635**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 16:47	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-3A

2103217-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**183**	103	ug/L	10.0	1C12007	CRLV	03/12/2021 08:02	03/18/2021 18:23	EPA 8270D	
Acenaphthylene	ND	10.3	"	1.0	"	CRLV	"	03/16/2021 15:27	"	
Anthracene	**11.1**	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**71.7**	66.7	"	10.0	"	CRLV	"	03/18/2021 18:23	"	
4-Chloro-3-methylphenol	ND	10.3	"	1.0	"	CRLV	"	03/16/2021 15:27	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**82.9**	82.1	"	10.0	"	CRLV	"	03/18/2021 18:23	"	
2,4-Dimethylphenol	**16.7**	12.9	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	1.0	"	CRLV	"	03/16/2021 15:27	"	CC-01
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**42.7**	41.0	"	10.0	"	CRLV	"	03/18/2021 18:23	"	
Fluorene	**109**	103	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	1.0	"	CRLV	"	03/16/2021 15:27	"	
2-Methylnaphthalene	**59.6**	51.3	"	10.0	"	CRLV	"	03/18/2021 18:23	"	
2-Methylphenol	ND	10.3	"	1.0	"	CRLV	"	03/16/2021 15:27	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**14.4**	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	**104**	103	"	10.0	"	CRLV	"	03/18/2021 18:23	"	
Pyrene	**18.6**	10.3	"	1.0	"	CRLV	"	03/16/2021 15:27	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.81	*56.6 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.46	*48.0 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.90	*28.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.35	*45.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.97	*19.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.03	*39.6 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C12007	CRLV	"	03/16/2021 15:27	8270 PCP by GC/MS	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-3A

2103217-07 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	5.81	*56.6 %*	*16.2-100*		*1C12007*	CRLV	*03/12/2021 08:02*	"	"	
2-Fluorophenol	2.90	*28.3 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	1.97	*19.2 %*	*16.1-100*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 16:44	EPA 8260D	
Ethylbenzene	**5.39**	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	56.2	*112 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.1	*110 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	52.4	*105 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	53.7	*107 %*	*70-130*		"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RW-6

2103217-08 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**346000**	50000	ug/L	500.0	1C12027	CRLV	03/12/2021 11:20	03/18/2021 22:30	EPA 8270D	
Acenaphthylene	**3270**	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	
Anthracene	**40700**	10000	"	100.0	"	CRLV	"	03/17/2021 16:37	"	
Benzo (a) anthracene	**44300**	10000	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**13000**	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	
Benzo (k) fluoranthene	**4120**	1000	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**8240**	1000	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1000	"	"	"	CRLV	"	"	"	
Carbazole	**43700**	10000	"	100.0	"	CRLV	"	03/17/2021 16:37	"	
4-Chloro-3-methylphenol	ND	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	
Chrysene	**38000**	10000	"	100.0	"	CRLV	"	03/17/2021 16:37	"	
Dibenz (a,h) anthracene	ND	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	
Dibenzofuran	**255000**	50000	"	500.0	"	CRLV	"	03/18/2021 22:30	"	
2,4-Dimethylphenol	ND	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	
2,4-Dinitrophenol	ND	1000	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1000	"	"	"	CRLV	"	"	"	
Fluoranthene	**254000**	50000	"	500.0	"	CRLV	"	03/18/2021 22:30	"	
Fluorene	**278000**	50000	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**2100**	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	
2-Methylnaphthalene	**431000**	50000	"	500.0	"	CRLV	"	03/18/2021 22:30	"	
2-Methylphenol	ND	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	
3 & 4-Methylphenol	ND	1000	"	"	"	CRLV	"	"	"	
Naphthalene	**440000**	50000	"	500.0	"	CRLV	"	03/18/2021 22:30	"	
Pentachlorophenol	ND	10000	"	100.0	"	CRLV	"	03/17/2021 16:37	"	
Phenanthrene	**506000**	50000	"	500.0	"	CRLV	"	03/18/2021 22:30	"	
Pyrene	**161000**	50000	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	10.0	"	CRLV	"	03/17/2021 17:11	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	570	*57.0 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	347	*69.4 %*	*14.7-104*	"	CRLV	"	*03/18/2021 22:30*	"	
2-Fluorophenol	239	*23.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	347	*69.4 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	203	*20.3 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	303	*60.6 %*	*10-110*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/GC-Sump

2103217-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**2230**	50.0	mg/L	100.0	1C11042	TKM	03/11/2021 13:00	03/12/2021 22:46	SM 4110B 2011	
Nitrate as N	ND	5.00	"	10.0	"	TKM	"	03/11/2021 19:00	"	
Ammonia as N	**40.1**	1.00	"	"	1C15044	DLW	03/15/2021 14:50	03/15/2021 16:18	SM 4500-NH3D 2011	
pH	**6.18**		pH Units	1.0	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**5210**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**75.7**	10.1	ug/L	1.0	1C12027	CRLV	03/12/2021 11:20	03/17/2021 10:22	EPA 8270D	
Acenaphthylene	ND	10.1	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.1	"	"	"	CRLV	"	"	"	
Carbazole	**75.4**	10.1	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.1	"	"	"	CRLV	"	"	"	
Dibenzofuran	**14.2**	10.1	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.1	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.1	"	"	"	CRLV	"	"	"	
Fluorene	**20.3**	10.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	**19.0**	10.1	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.1	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.1	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.1	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/GC-Sump

2103217-09 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	41.1	*40.7 %*	*13.3-115*		*1C12027*	CRLV	*03/12/2021 11:20*	"	"	
2-Fluorobiphenyl	18.4	*36.4 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	21.2	*21.0 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	21.1	*41.8 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	14.4	*14.2 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	4.89	*9.68 %*	*10-110*		"	CRLV	"	"	"	*SR06*
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/15/2021 17:27	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	49.5	*99.1 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.7	*109 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	42.1	*84.2 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	60.5	*121 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RC-3

2103217-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**97.3**	2.50	mg/L	5.0	1C11042	TKM	03/11/2021 13:00	03/13/2021 00:53	SM 4110B 2011	
Nitrate as N	ND	2.50	"	"	"	TKM	"	"	"	
Ammonia as N	**3.28**	0.10	"	1.0	1C15044	DLW	03/15/2021 14:50	03/15/2021 16:18	SM 4500-NH3D 2011	
pH	**6.47**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**583**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 16:53	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	**0.00186**	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RC-3

2103217-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**4760**	1030	ug/L	100.0	1C12027	CRLV	03/12/2021 11:20	03/17/2021 16:02	EPA 8270D	
Acenaphthylene	ND	103	"	10.0	"	CRLV	"	03/17/2021 17:45	"	
Anthracene	**564**	103	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**860**	103	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**587**	103	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**240**	103	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**353**	103	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	103	"	"	"	CRLV	"	"	"	
Carbazole	**760**	103	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	103	"	"	"	CRLV	"	"	"	
Chrysene	**578**	103	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	1.0	"	CRLV	"	03/19/2021 04:44	"	
Dibenzofuran	**2740**	1030	"	100.0	"	CRLV	"	03/17/2021 16:02	"	
2,4-Dimethylphenol	ND	103	"	10.0	"	CRLV	"	03/17/2021 17:45	"	
2,4-Dinitrophenol	ND	103	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	1.0	"	CRLV	"	03/19/2021 04:44	"	
Fluoranthene	**5520**	1030	"	100.0	"	CRLV	"	03/17/2021 16:02	"	
Fluorene	**4410**	1030	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	1.0	"	CRLV	"	03/19/2021 04:44	"	
2-Methylnaphthalene	**3390**	1030	"	100.0	"	CRLV	"	03/17/2021 16:02	"	
2-Methylphenol	ND	103	"	10.0	"	CRLV	"	03/17/2021 17:45	"	
3 & 4-Methylphenol	ND	103	"	"	"	CRLV	"	"	"	
Naphthalene	**6470**	1030	"	100.0	"	CRLV	"	03/17/2021 16:02	"	
Pentachlorophenol	ND	103	"	10.0	"	CRLV	"	03/17/2021 17:45	"	
Phenanthrene	**8610**	1030	"	100.0	"	CRLV	"	03/17/2021 16:02	"	
Pyrene	**3200**	1030	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	103	"	10.0	"	CRLV	"	03/17/2021 17:45	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	48.2	*47.0 %*	*13.3-115*	"	CRLV	"	*03/19/2021 04:44*	"	
2-Fluorobiphenyl	29.4	*57.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	17.6	*17.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	24.2	*47.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	12.3	*12.0 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	16.7	*32.6 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:24

Mobile/RC-3

2103217-10 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**15.8**	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 18:18	EPA 8260D	
Ethylbenzene	**48.8**	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	57.1	*114 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	53.7	*107 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	51.4	*103 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	50.5	*101 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RC-2A

2103217-11 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**61.0**	1.00	mg/L	2.0	1C11042	TKM	03/11/2021 13:00	03/13/2021 01:25	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/11/2021 22:43	"	
Ammonia as N	**0.65**	0.21	"	"	1C11051	CDV	03/11/2021 13:02	03/11/2021 15:18	Lachat 10-107-06-1-I	
pH	**6.19**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**372**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C15026	ABT	03/15/2021 08:50	03/15/2021 17:00	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RC-2A

2103217-11 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**308**	102	ug/L	10.0	1C12027	CRLV	03/12/2021 11:20	03/16/2021 12:19	EPA 8270D	
Acenaphthylene	ND	10.2	"	1.0	"	CRLV	"	03/16/2021 13:27	"	
Anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Carbazole	**390**	102	"	10.0	"	CRLV	"	03/16/2021 12:19	"	
4-Chloro-3-methylphenol	ND	10.2	"	1.0	"	CRLV	"	03/16/2021 13:27	"	
Chrysene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	**88.7**	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.2	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.2	"	"	"	CRLV	"	"	"	
Fluorene	**160**	102	"	10.0	"	CRLV	"	03/16/2021 12:19	"	
Indeno (1,2,3-cd) pyrene	ND	10.2	"	1.0	"	CRLV	"	03/16/2021 13:27	"	
2-Methylnaphthalene	ND	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**366**	102	"	10.0	"	CRLV	"	03/16/2021 12:19	"	
Pentachlorophenol	ND	10.2	"	1.0	"	CRLV	"	03/16/2021 13:27	"	
Phenanthrene	**84.9**	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.2	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	56.0	*54.9 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	28.2	*55.3 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	24.6	*24.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	23.0	*45.1 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	16.8	*16.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	23.2	*45.5 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 18:45	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Mobile/RC-2A

2103217-11 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	54.9	*110 %*	*70-130*	*1C16027*	SAD	*03/12/2021 08:00*	"	"	
1,2-Dichloroethane-d4	53.5	*107 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	51.6	*103 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	53.7	*107 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Trip Blank TBV#6667

2103217-12 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16027	SAD	03/12/2021 08:00	03/12/2021 19:11	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.3	*113 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.6	*109 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	53.0	*106 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	54.0	*108 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
Blank (1C11030-BLK1)											
Benzo (a) pyrene	3/11/21 19:19	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.160*		*"*	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.160*		*"*	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.200*		*"*	*0.200*		*100*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
LCS (1C11030-BS1)											
Benzo (a) pyrene	3/11/21 20:01	0.29	0.06	ug/L	0.200		145	10-149			
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.140*		"	*0.200*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.170*		"	*0.200*		*85.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C11030-BSD1)											
Benzo (a) pyrene	3/11/21 20:42	0.24	0.06	ug/L	0.200		120	10-149	18.9	40	
Surrogate: 2-Fluorobiphenyl		*0.140*		"	*0.200*		*70.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.220*		"	*0.200*		*110*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.140*		"	*0.200*		*70.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C11030-DUP1)			**Source: 2103182-12**								
Benzo (a) pyrene	3/12/21 11:14	10.2	0.62	ug/L		0.49			182	200	
Surrogate: 2-Fluorobiphenyl		*0.00*		*"*	*0.205*			*13.3-100*			*SR01*
Surrogate: Nitrobenzene-d5		*0.00*		*"*	*0.205*			*19.6-113*			*SR01*
Surrogate: Terphenyl-dl4		*0.00*		*"*	*0.205*			*11.3-163*			*SR01*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11030 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C11030-MS1)			**Source: 2103182-12**								
Benzo (a) pyrene	3/12/21 11:55	8.80	0.63	ug/L	0.209	0.49	NR	10-208			M1, M5
Surrogate: 2-Fluorobiphenyl		*0.00*		*"*	*0.209*			*13.3-100*			*SR01*
Surrogate: Nitrobenzene-d5		*0.00*		*"*	*0.209*			*19.6-113*			*SR01*
Surrogate: Terphenyl-dl4		*0.00*		*"*	*0.209*			*11.3-163*			*SR01*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11042 - Default Prep GenChem											
Blank (1C11042-BLK1)											
Chloride	3/10/21 12:34	ND	0.500	mg/L							
Nitrate as N	3/10/21 12:34	ND	0.500	"							
Blank (1C11042-BLK2)											
Chloride	3/10/21 23:13	ND	0.500	mg/L							
Nitrate as N	3/10/21 23:13	ND	0.500	"							
Blank (1C11042-BLK3)											
Chloride	3/11/21 10:29	ND	0.500	mg/L							
Nitrate as N	3/11/21 10:29	ND	0.500	"							
Blank (1C11042-BLK4)											
Chloride	3/12/21 8:50	ND	0.500	mg/L							
Nitrate as N	3/12/21 8:50	ND	0.500	"							
Blank (1C11042-BLK5)											
Chloride	3/16/21 10:50	ND	0.500	mg/L							
Nitrate as N	3/16/21 10:50	ND	0.500	"							
LCS (1C11042-BS1)											
Chloride	3/10/21 10:26	2.75	0.500	mg/L	3.00		91.7	86.3-109			
Nitrate as N	3/10/21 10:26	2.08	0.500	"	2.26		91.8	81.7-111			
LCS (1C11042-BS2)											
Chloride	3/10/21 22:09	2.91	0.500	mg/L	3.00		96.8	86.3-109			
Nitrate as N	3/10/21 22:09	2.18	0.500	"	2.26		96.3	81.7-111			
LCS (1C11042-BS3)											
Chloride	3/11/21 8:53	2.85	0.500	mg/L	3.00		94.8	86.3-109			
Nitrate as N	3/11/21 8:53	2.13	0.500	"	2.26		94.4	81.7-111			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11042 - Default Prep GenChem											
LCS (1C11042-BS4)											
Chloride	3/12/21 7:46	2.87	0.500	mg/L	3.00		95.7	86.3-109			
Nitrate as N	3/12/21 7:46	2.39	0.500	"	2.26		106	81.7-111			
LCS (1C11042-BS5)											
Chloride	3/16/21 9:14	2.97	0.500	mg/L	3.00		98.9	86.3-109			
Nitrate as N	3/16/21 9:14	2.18	0.500	"	2.26		96.4	81.7-111			
LCS Dup (1C11042-BSD1)											
Chloride	3/10/21 12:02	2.85	0.500	mg/L	3.00		95.1	86.3-109	3.64	20	
Nitrate as N	3/10/21 12:02	2.14	0.500	"	2.26		94.8	81.7-111	3.22	20	
LCS Dup (1C11042-BSD2)											
Chloride	3/10/21 22:41	2.91	0.500	mg/L	3.00		96.9	86.3-109	0.103	20	
Nitrate as N	3/10/21 22:41	2.18	0.500	"	2.26		96.5	81.7-111	0.184	20	
LCS Dup (1C11042-BSD3)											
Chloride	3/11/21 9:57	2.88	0.500	mg/L	3.00		95.9	86.3-109	1.15	20	
Nitrate as N	3/11/21 9:57	2.15	0.500	"	2.26		95.0	81.7-111	0.701	20	
LCS Dup (1C11042-BSD4)											
Chloride	3/12/21 8:18	2.87	0.500	mg/L	3.00		95.8	86.3-109	0.0696	20	
Nitrate as N	3/12/21 8:18	2.15	0.500	"	2.26		95.3	81.7-111	10.3	20	
LCS Dup (1C11042-BSD5)											
Chloride	3/16/21 9:46	2.99	0.500	mg/L	3.00		99.5	86.3-109	0.605	20	
Nitrate as N	3/16/21 9:46	2.18	0.500	"	2.26		96.3	81.7-111	0.0919	20	
Duplicate (1C11042-DUP1)			**Source: 2103161-02**								
Chloride	3/10/21 14:42	616	2.50	mg/L		444			32.4	20	E, RPD04
Nitrate as N	3/10/21 14:42	7.80	2.50	"		7.03			10.3	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11042 - Default Prep GenChem											
Duplicate (1C11042-DUP2)			**Source: 2103182-10**								
Chloride	3/11/21 13:09	7.12	0.500	mg/L		6.66			6.55	20	
Nitrate as N	3/11/21 13:09	0.409	0.500	"		0.428			4.54	20	
Matrix Spike (1C11042-MS1)			**Source: 2103161-02**								
Chloride	3/10/21 15:14	102		mg/L	20.0	88.8	68.5	76.2-122			E, M5
Nitrate as N	3/10/21 15:14	5.50		"	4.52	1.41	90.5	60.8-130			
Matrix Spike (1C11042-MS2)			**Source: 2103182-10**								
Chloride	3/11/21 13:40	17.0	0.500	mg/L	10.0	6.66	103	76.2-122			
Nitrate as N	3/11/21 13:40	2.35	0.500	"	2.26	0.428	85.1	60.8-130			
Matrix Spike Dup (1C11042-MSD1)			**Source: 2103161-02**								
Chloride	3/10/21 15:46	103		mg/L	20.0	88.8	72.9	76.2-122	0.857	20	E, M5
Nitrate as N	3/10/21 15:46	5.88		"	4.52	1.41	99.0	60.8-130	6.78	20	
Matrix Spike Dup (1C11042-MSD2)			**Source: 2103182-10**								
Chloride	3/11/21 2:25	17.1	0.500	mg/L	10.0	6.66	105	76.2-122	0.756	20	
Nitrate as N	3/11/21 2:25	2.47	0.500	"	2.26	0.428	90.3	60.8-130	4.85	20	
Batch 1C11051 - Default Prep GenChem											
Blank (1C11051-BLK1)											
Ammonia as N	3/11/21 14:40	ND	0.21	mg/L							
LCS (1C11051-BS1)											
Ammonia as N	3/11/21 14:43	5.06	0.21	mg/L	5.00		101	90-110			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C11051 - Default Prep GenChem											
LCS Dup (1C11051-BSD1)											
Ammonia as N	3/11/21 14:47	5.03	0.21	mg/L	5.00		101	90-110	0.595	10	
Matrix Spike (1C11051-MS1)			**Source: 2103217-01**								
Ammonia as N	3/11/21 15:03	4.55	0.21	mg/L	5.00	ND	90.1	90-110			
Matrix Spike Dup (1C11051-MSD1)			**Source: 2103217-01**								
Ammonia as N	3/11/21 15:05	4.93	0.21	mg/L	5.00	ND	97.7	90-110	8.02	10	
Batch 1C12029 - Default Prep GenChem											
LCS (1C12029-BS1)											
Specific Conductance (EC)	3/12/21 12:15	1430		uS/cm	1410		101	90-110			
Duplicate (1C12029-DUP1)			**Source: 2103217-01**								
Specific Conductance (EC)	3/12/21 12:15	405		umhos/cm @25.0 C		403			0.495	10	
Duplicate (1C12029-DUP2)			**Source: 2103253-01**								
Specific Conductance (EC)	3/12/21 12:15	1840		umhos/cm @25.0 C		1840			0.218	10	
Batch 1C12030 - Default Prep GenChem											
Duplicate (1C12030-DUP1)			**Source: 2103217-01**								
pH	3/12/21 12:00	5.60		pH Units		5.54			1.08	5	HT-02
Duplicate (1C12030-DUP2)			**Source: 2103253-01**								
pH	3/12/21 12:00	6.77		pH Units		6.75			0.296	5	HT-02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C15044 - Default Prep GenChem											
Blank (1C15044-BLK1)											
Ammonia as N	3/15/21 16:18	ND	0.10	mg/L							
LCS (1C15044-BS1)											
Ammonia as N	3/15/21 16:18	3.96	0.10	mg/L	4.00		99.0	85.8-110			
LCS Dup (1C15044-BSD1)											
Ammonia as N	3/15/21 16:18	3.90	0.10	mg/L	4.00		97.5	85.8-110	1.53	15	
Duplicate (1C15044-DUP1)			**Source: 2103217-09**								
Ammonia as N	3/15/21 16:18	40.6	1.00	mg/L		40.1			1.24	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C15026 - EPA 200.2 DCN 1017 Rev 9											
Blank (1C15026-BLK1)											
Arsenic [He]	3/15/21 15:00	ND	0.00200	mg/L							
Chromium [He]	3/15/21 15:00	ND	0.00100	"							
Lead [He]	3/15/21 15:00	ND	0.00100	"							
Nickel [He]	3/15/21 15:00	ND	0.0400	"							
LCS (1C15026-BS1)											
Arsenic [He]	3/15/21 15:06	0.104	0.00200	mg/L	0.100		104	85-115			
Chromium [He]	3/15/21 15:06	0.106	0.00100	"	0.100		106	85-115			
Lead [He]	3/15/21 15:06	0.100	0.00100	"	0.100		100	85-115			
Nickel [He]	3/15/21 15:06	0.105	0.0400	"	0.100		105	85-115			
LCS Dup (1C15026-BSD1)											
Arsenic [He]	3/15/21 15:13	0.104	0.00200	mg/L	0.100		104	85-115	0.472	20	
Chromium [He]	3/15/21 15:13	0.105	0.00100	"	0.100		105	85-115	0.401	20	
Lead [He]	3/15/21 15:13	0.100	0.00100	"	0.100		100	85-115	0.268	20	
Nickel [He]	3/15/21 15:13	0.105	0.0400	"	0.100		105	85-115	0.312	20	
Matrix Spike (1C15026-MS1)			**Source: 2103217-03**								
Arsenic [He]	3/15/21 15:46	0.104	0.00200	mg/L	0.100	0.0005	104	70-130			
Chromium [He]	3/15/21 15:46	0.102	0.00100	"	0.100	ND	102	70-130			
Lead [He]	3/15/21 15:46	0.103	0.00100	"	0.100	0.002	101	70-130			
Nickel [He]	3/15/21 15:46	0.106	0.0400	"	0.100	0.006	99.8	70-130			
Matrix Spike Dup (1C15026-MSD1)			**Source: 2103217-03**								
Arsenic [He]	3/15/21 15:53	0.103	0.00200	mg/L	0.100	0.0005	103	70-130	1.15	20	
Chromium [He]	3/15/21 15:53	0.102	0.00100	"	0.100	ND	102	70-130	0.610	20	
Lead [He]	3/15/21 15:53	0.104	0.00100	"	0.100	0.002	102	70-130	0.888	20	
Nickel [He]	3/15/21 15:53	0.106	0.0400	"	0.100	0.006	99.8	70-130	0.0101	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Blank (1C12007-BLK1)											
Acenaphthene	3/15/21 9:30	ND	10.0	ug/L							
Acenaphthylene	3/15/21 9:30	ND	10.0	"							
Anthracene	3/15/21 9:30	ND	10.0	"							
Benzo (a) anthracene	3/15/21 9:30	ND	10.0	"							
Benzo (b) fluoranthene	3/15/21 9:30	ND	10.0	"							
Benzo (k) fluoranthene	3/15/21 9:30	ND	10.0	"							
Benzo (a) pyrene	3/15/21 9:30	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/15/21 9:30	ND	10.0	"							
Carbazole	3/15/21 9:30	ND	10.0	"							
4-Chloro-3-methylphenol	3/15/21 9:30	ND	10.0	"							
Chrysene	3/15/21 9:30	ND	10.0	"							
Dibenz (a,h) anthracene	3/15/21 9:30	ND	10.0	"							
Dibenzofuran	3/15/21 9:30	ND	10.0	"							
2,4-Dimethylphenol	3/15/21 9:30	ND	10.0	"							
2,4-Dinitrophenol	3/15/21 9:30	ND	10.0	"							
Di-n-octyl phthalate	3/15/21 9:30	ND	10.0	"							
Fluoranthene	3/15/21 9:30	ND	10.0	"							
Fluorene	3/15/21 9:30	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/15/21 9:30	ND	10.0	"							
2-Methylnaphthalene	3/15/21 9:30	ND	10.0	"							
2-Methylphenol	3/15/21 9:30	ND	10.0	"							
3 & 4-Methylphenol	3/15/21 9:30	ND	10.0	"							
Naphthalene	3/15/21 9:30	ND	10.0	"							
Pentachlorophenol	3/15/21 9:30	ND	10.0	"							
Phenanthrene	3/15/21 9:30	ND	10.0	"							
Pyrene	3/15/21 9:30	ND	10.0	"							
2,4,6-Trichlorophenol	3/15/21 9:30	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*4.73*		*"*	*10.0*		*47.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.07*		*"*	*5.00*		*61.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.80*		*"*	*10.0*		*58.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.65*		*"*	*5.00*		*53.0*	*10-103*			
Surrogate: Phenol-d5		*5.72*		*"*	*10.0*		*57.2*	*10-105*			
Surrogate: Terphenyl-dl4		*3.39*		*"*	*5.00*		*67.8*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
LCS (1C12007-BS1)											
Acenaphthene	3/15/21 10:07	6.28	10.0	ug/L	10.0		62.8	45.5-108			
Acenaphthylene	3/15/21 10:07	6.46	10.0	"	10.0		64.6	46.4-114			
Anthracene	3/15/21 10:07	6.03	10.0	"	10.0		60.3	47-106			
Benzo (a) anthracene	3/15/21 10:07	5.48	10.0	"	10.0		54.8	50.8-105			
Benzo (b) fluoranthene	3/15/21 10:07	6.00	10.0	"	10.0		60.0	47-109			
Benzo (k) fluoranthene	3/15/21 10:07	6.02	10.0	"	10.0		60.2	44-111			
Benzo (a) pyrene	3/15/21 10:07	6.34	10.0	"	10.0		63.4	52.9-103			
Bis(2-ethylhexyl)phthalate	3/15/21 10:07	4.96	10.0	"	10.0		49.6	36.4-121			
Carbazole	3/15/21 10:07	6.57	10.0	"	10.0		65.7	25-172			
4-Chloro-3-methylphenol	3/15/21 10:07	5.86	10.0	"	10.0		58.6	46.4-108			
Chrysene	3/15/21 10:07	5.60	10.0	"	10.0		56.0	46.6-100			
Dibenz (a,h) anthracene	3/15/21 10:07	6.18	10.0	"	10.0		61.8	46.7-102			
Dibenzofuran	3/15/21 10:07	6.26	10.0	"	10.0		62.6	45.8-105			
2,4-Dimethylphenol	3/15/21 10:07	6.42	10.0	"	10.0		64.2	41.6-101			
2,4-Dinitrophenol	3/15/21 10:07	4.07	10.0	"	10.0		40.7	10-131			
Di-n-octyl phthalate	3/15/21 10:07	5.16	10.0	"	10.0		51.6	38.6-123			
Fluoranthene	3/15/21 10:07	5.82	10.0	"	10.0		58.2	44.9-114			
Fluorene	3/15/21 10:07	6.45	10.0	"	10.0		64.5	45.6-107			
Indeno (1,2,3-cd) pyrene	3/15/21 10:07	5.96	10.0	"	10.0		59.6	45.8-104			
2-Methylnaphthalene	3/15/21 10:07	5.81	10.0	"	10.0		58.1	44.2-104			
2-Methylphenol	3/15/21 10:07	6.06	10.0	"	10.0		60.6	44.5-103			
3 & 4-Methylphenol	3/15/21 10:07	12.5	10.0	"	20.0		62.4	11-149			
Naphthalene	3/15/21 10:07	6.05	10.0	"	10.0		60.5	45-100			
Pentachlorophenol	3/15/21 10:07	4.84	10.0	"	10.0		48.4	17.4-124			
Phenanthrene	3/15/21 10:07	6.02	10.0	"	10.0		60.2	49.2-107			
Pyrene	3/15/21 10:07	5.83	10.0	"	10.0		58.3	31.7-124			
2,4,6-Trichlorophenol	3/15/21 10:07	5.69	10.0	"	10.0		56.9	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*5.90*		*"*	*10.0*		*59.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.16*		*"*	*5.00*		*63.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.82*		*"*	*10.0*		*58.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.32*		*"*	*5.00*		*66.4*	*10-103*			
Surrogate: Phenol-d5		*6.23*		*"*	*10.0*		*62.3*	*10-105*			
Surrogate: Terphenyl-dl4		*2.91*		*"*	*5.00*		*58.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C12007-BSD1)											
Acenaphthene	3/15/21 10:45	6.74	10.0	ug/L	10.0		67.4	45.5-108	7.07	40	
Acenaphthylene	3/15/21 10:45	6.96	10.0	"	10.0		69.6	46.4-114	7.45	40	
Anthracene	3/15/21 10:45	6.54	10.0	"	10.0		65.4	47-106	8.11	40	
Benzo (a) anthracene	3/15/21 10:45	5.85	10.0	"	10.0		58.5	50.8-105	6.53	40	
Benzo (b) fluoranthene	3/15/21 10:45	6.60	10.0	"	10.0		66.0	47-109	9.52	40	
Benzo (k) fluoranthene	3/15/21 10:45	6.64	10.0	"	10.0		66.4	44-111	9.79	40	
Benzo (a) pyrene	3/15/21 10:45	6.94	10.0	"	10.0		69.4	52.9-103	9.04	40	
Bis(2-ethylhexyl)phthalate	3/15/21 10:45	5.27	10.0	"	10.0		52.7	36.4-121	6.06	40	
Carbazole	3/15/21 10:45	7.02	10.0	"	10.0		70.2	25-172	6.62	40	
4-Chloro-3-methylphenol	3/15/21 10:45	6.40	10.0	"	10.0		64.0	46.4-108	8.81	40	
Chrysene	3/15/21 10:45	6.11	10.0	"	10.0		61.1	46.6-100	8.71	40	
Dibenz (a,h) anthracene	3/15/21 10:45	6.81	10.0	"	10.0		68.1	46.7-102	9.70	40	
Dibenzofuran	3/15/21 10:45	6.62	10.0	"	10.0		66.2	45.8-105	5.59	40	
2,4-Dimethylphenol	3/15/21 10:45	7.37	10.0	"	10.0		73.7	41.6-101	13.8	40	
2,4-Dinitrophenol	3/15/21 10:45	4.57	10.0	"	10.0		45.7	10-131	11.6	40	
Di-n-octyl phthalate	3/15/21 10:45	5.28	10.0	"	10.0		52.8	38.6-123	2.30	40	
Fluoranthene	3/15/21 10:45	6.27	10.0	"	10.0		62.7	44.9-114	7.44	40	
Fluorene	3/15/21 10:45	6.75	10.0	"	10.0		67.5	45.6-107	4.55	40	
Indeno (1,2,3-cd) pyrene	3/15/21 10:45	6.64	10.0	"	10.0		66.4	45.8-104	10.8	40	
2-Methylnaphthalene	3/15/21 10:45	6.31	10.0	"	10.0		63.1	44.2-104	8.25	40	
2-Methylphenol	3/15/21 10:45	6.68	10.0	"	10.0		66.8	44.5-103	9.73	40	
3 & 4-Methylphenol	3/15/21 10:45	13.5	10.0	"	20.0		67.7	11-149	8.23	40	
Naphthalene	3/15/21 10:45	6.38	10.0	"	10.0		63.8	45-100	5.31	40	
Pentachlorophenol	3/15/21 10:45	5.19	10.0	"	10.0		51.9	17.4-124	6.98	40	
Phenanthrene	3/15/21 10:45	6.46	10.0	"	10.0		64.6	49.2-107	7.05	40	
Pyrene	3/15/21 10:45	6.75	10.0	"	10.0		67.5	31.7-124	14.6	40	
2,4,6-Trichlorophenol	3/15/21 10:45	6.02	10.0	"	10.0		60.2	41.7-110	5.64	40	
Surrogate: 2,4,6-Tribromophenol		*5.78*		*"*	*10.0*		*57.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.25*		*"*	*5.00*		*65.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.98*		*"*	*10.0*		*59.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.44*		*"*	*5.00*		*68.8*	*10-103*			
Surrogate: Phenol-d5		*6.37*		*"*	*10.0*		*63.7*	*10-105*			
Surrogate: Terphenyl-dl4		*3.07*		*"*	*5.00*		*61.4*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C12007-DUP1)			**Source: 2103182-09**								
Acenaphthene	3/15/21 16:25	ND	10.3	ug/L		ND				45	
Acenaphthylene	3/15/21 16:25	ND	10.3	"		ND				45	
Anthracene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (a) anthracene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (b) fluoranthene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (k) fluoranthene	3/15/21 16:25	ND	10.3	"		ND				45	
Benzo (a) pyrene	3/15/21 16:25	ND	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/15/21 16:25	ND	10.3	"		ND				45	
Carbazole	3/15/21 16:25	ND	10.3	"		ND				45	
4-Chloro-3-methylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
Chrysene	3/15/21 16:25	ND	10.3	"		ND				45	
Dibenz (a,h) anthracene	3/15/21 16:25	ND	10.3	"		ND				45	
Dibenzofuran	3/15/21 16:25	ND	10.3	"		ND				45	
2,4-Dimethylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
2,4-Dinitrophenol	3/15/21 16:25	ND	10.3	"		ND				45	
Di-n-octyl phthalate	3/15/21 16:25	ND	10.3	"		ND				45	
Fluoranthene	3/15/21 16:25	ND	10.3	"		ND				45	
Fluorene	3/15/21 16:25	ND	10.3	"		ND				45	
Indeno (1,2,3-cd) pyrene	3/15/21 16:25	ND	10.3	"		ND				45	
2-Methylnaphthalene	3/15/21 16:25	ND	10.3	"		ND				45	
2-Methylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
3 & 4-Methylphenol	3/15/21 16:25	ND	10.3	"		ND				45	
Naphthalene	3/15/21 16:25	ND	10.3	"		ND				45	
Pentachlorophenol	3/15/21 16:25	ND	10.3	"		ND				45	
Phenanthrene	3/15/21 16:25	ND	10.3	"		ND				45	
Pyrene	3/15/21 16:25	ND	10.3	"		ND				45	
2,4,6-Trichlorophenol	3/15/21 16:25	ND	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*4.90*		*"*	*10.3*		*47.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.48*		*"*	*5.15*		*48.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.85*		*"*	*10.3*		*27.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.10*		*"*	*5.15*		*40.8*	*10-103*			
Surrogate: Phenol-d5		*1.75*		*"*	*10.3*		*17.0*	*10-105*			
Surrogate: Terphenyl-dl4		*2.85*		*"*	*5.15*		*55.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C12007-MS1)			**Source: 2103182-09**								
Acenaphthene	3/15/21 17:03	5.93	10.9	ug/L	10.9	ND	54.6	21.2-106			
Acenaphthylene	3/15/21 17:03	6.37	10.9	"	10.9	ND	58.6	23.7-113			
Anthracene	3/15/21 17:03	6.10	10.9	"	10.9	ND	56.1	32.7-100			
Benzo (a) anthracene	3/15/21 17:03	5.97	10.9	"	10.9	ND	54.9	35.6-101			
Benzo (b) fluoranthene	3/15/21 17:03	5.91	10.9	"	10.9	ND	54.4	38.4-100			
Benzo (k) fluoranthene	3/15/21 17:03	5.93	10.9	"	10.9	ND	54.6	29.6-107			
Benzo (a) pyrene	3/15/21 17:03	6.54	10.9	"	10.9	ND	60.2	32.7-102			
Bis(2-ethylhexyl)phthalate	3/15/21 17:03	5.95	10.9	"	10.9	ND	54.7	28.4-112			
Carbazole	3/15/21 17:03	6.96	10.9	"	10.9	ND	64.0	24.9-167			
4-Chloro-3-methylphenol	3/15/21 17:03	6.48	10.9	"	10.9	ND	59.6	20.7-115			
Chrysene	3/15/21 17:03	5.89	10.9	"	10.9	ND	54.2	30.8-100			
Dibenz (a,h) anthracene	3/15/21 17:03	6.08	10.9	"	10.9	ND	55.9	32.3-103			
Dibenzofuran	3/15/21 17:03	6.13	10.9	"	10.9	ND	56.4	29.1-105			
2,4-Dimethylphenol	3/15/21 17:03	6.84	10.9	"	10.9	ND	62.9	15.6-114			
2,4-Dinitrophenol	3/15/21 17:03	4.30	10.9	"	10.9	ND	39.6	10-110			
Di-n-octyl phthalate	3/15/21 17:03	6.45	10.9	"	10.9	ND	59.3	19.2-118			
Fluoranthene	3/15/21 17:03	6.62	10.9	"	10.9	ND	60.9	31.9-106			
Fluorene	3/15/21 17:03	6.30	10.9	"	10.9	ND	58.0	28.1-104			
Indeno (1,2,3-cd) pyrene	3/15/21 17:03	5.97	10.9	"	10.9	ND	54.9	29.6-105			
2-Methylnaphthalene	3/15/21 17:03	5.32	10.9	"	10.9	ND	48.9	18.5-106			
2-Methylphenol	3/15/21 17:03	5.22	10.9	"	10.9	ND	48.0	10-106			
3 & 4-Methylphenol	3/15/21 17:03	9.65	10.9	"	21.7	ND	44.4	10-139			
Naphthalene	3/15/21 17:03	5.26	10.9	"	10.9	ND	48.4	17-100			
Pentachlorophenol	3/15/21 17:03	6.41	10.9	"	10.9	ND	59.0	10-119			
Phenanthrene	3/15/21 17:03	6.08	10.9	"	10.9	ND	55.9	34.8-106			
Pyrene	3/15/21 17:03	6.36	10.9	"	10.9	ND	58.5	10-127			
2,4,6-Trichlorophenol	3/15/21 17:03	6.35	10.9	"	10.9	ND	58.4	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*6.73*		*"*	*10.9*		*61.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.84*		*"*	*5.43*		*52.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*3.37*		*"*	*10.9*		*31.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.90*		*"*	*5.43*		*53.4*	*10-103*			
Surrogate: Phenol-d5		*2.25*		*"*	*10.9*		*20.7*	*10-105*			
Surrogate: Terphenyl-dl4		*2.83*		*"*	*5.43*		*52.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
Blank (1C12027-BLK1)											
Acenaphthene	3/16/21 11:10	ND	10.0	ug/L							
Acenaphthylene	3/16/21 11:10	ND	10.0	"							
Anthracene	3/16/21 11:10	ND	10.0	"							
Benzo (a) anthracene	3/16/21 11:10	ND	10.0	"							
Benzo (b) fluoranthene	3/16/21 11:10	ND	10.0	"							
Benzo (k) fluoranthene	3/16/21 11:10	ND	10.0	"							
Benzo (a) pyrene	3/16/21 11:10	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/16/21 11:10	ND	10.0	"							
Carbazole	3/16/21 11:10	ND	10.0	"							
4-Chloro-3-methylphenol	3/16/21 11:10	ND	10.0	"							
Chrysene	3/16/21 11:10	ND	10.0	"							
Dibenz (a,h) anthracene	3/16/21 11:10	ND	10.0	"							
Dibenzofuran	3/16/21 11:10	ND	10.0	"							
2,4-Dimethylphenol	3/16/21 11:10	ND	10.0	"							
2,4-Dinitrophenol	3/16/21 11:10	ND	10.0	"							
Di-n-octyl phthalate	3/16/21 11:10	ND	10.0	"							
Fluoranthene	3/16/21 11:10	ND	10.0	"							
Fluorene	3/16/21 11:10	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/16/21 11:10	ND	10.0	"							
2-Methylnaphthalene	3/16/21 11:10	ND	10.0	"							
2-Methylphenol	3/16/21 11:10	ND	10.0	"							
3 & 4-Methylphenol	3/16/21 11:10	ND	10.0	"							
Naphthalene	3/16/21 11:10	ND	10.0	"							
Pentachlorophenol	3/16/21 11:10	ND	10.0	"							
Phenanthrene	3/16/21 11:10	ND	10.0	"							
Pyrene	3/16/21 11:10	ND	10.0	"							
2,4,6-Trichlorophenol	3/16/21 11:10	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*77.5*		"	*100*		*77.5*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*35.5*		"	*50.0*		*70.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*60.9*		"	*100*		*60.9*	*10-100*			
Surrogate: Nitrobenzene-d5		*36.6*		"	*50.0*		*73.2*	*10-103*			
Surrogate: Phenol-d5		*57.0*		"	*100*		*57.0*	*10-105*			
Surrogate: Terphenyl-dl4		*35.9*		"	*50.0*		*71.8*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
LCS (1C12027-BS1)											
Acenaphthene	3/16/21 14:00	73.4	10.0	ug/L	100		73.4	45.5-108			
Acenaphthylene	3/16/21 14:00	67.6	10.0	"	100		67.6	46.4-114			
Anthracene	3/16/21 14:00	63.7	10.0	"	100		63.7	47-106			
Benzo (a) anthracene	3/16/21 14:00	70.3	10.0	"	100		70.3	50.8-105			
Benzo (b) fluoranthene	3/16/21 14:00	72.9	10.0	"	100		72.9	47-109			
Benzo (k) fluoranthene	3/16/21 14:00	75.5	10.0	"	100		75.5	44-111			
Benzo (a) pyrene	3/16/21 14:00	73.9	10.0	"	100		73.9	52.9-103			
Bis(2-ethylhexyl)phthalate	3/16/21 14:00	66.4	10.0	"	100		66.4	36.4-121			
Carbazole	3/16/21 14:00	97.9	10.0	"	100		97.9	25-172			
4-Chloro-3-methylphenol	3/16/21 14:00	82.8	10.0	"	100		82.8	46.4-108			
Chrysene	3/16/21 14:00	68.2	10.0	"	100		68.2	46.6-100			
Dibenz (a,h) anthracene	3/16/21 14:00	68.7	10.0	"	100		68.7	46.7-102			
Dibenzofuran	3/16/21 14:00	68.0	10.0	"	100		68.0	45.8-105			
2,4-Dimethylphenol	3/16/21 14:00	72.9	10.0	"	100		72.9	41.6-101			
2,4-Dinitrophenol	3/16/21 14:00	74.9	10.0	"	100		74.9	10-131			
Di-n-octyl phthalate	3/16/21 14:00	71.4	10.0	"	100		71.4	38.6-123			
Fluoranthene	3/16/21 14:00	61.9	10.0	"	100		61.9	44.9-114			
Fluorene	3/16/21 14:00	71.3	10.0	"	100		71.3	45.6-107			
Indeno (1,2,3-cd) pyrene	3/16/21 14:00	68.2	10.0	"	100		68.2	45.8-104			
2-Methylnaphthalene	3/16/21 14:00	73.7	10.0	"	100		73.7	44.2-104			
2-Methylphenol	3/16/21 14:00	73.5	10.0	"	100		73.5	44.5-103			
3 & 4-Methylphenol	3/16/21 14:00	142	10.0	"	200		70.9	11-149			
Naphthalene	3/16/21 14:00	61.4	10.0	"	100		61.4	45-100			
Pentachlorophenol	3/16/21 14:00	56.8	10.0	"	100		56.8	17.4-124			
Phenanthrene	3/16/21 14:00	64.5	10.0	"	100		64.5	49.2-107			
Pyrene	3/16/21 14:00	59.0	10.0	"	100		59.0	31.7-124			
2,4,6-Trichlorophenol	3/16/21 14:00	72.3	10.0	"	100		72.3	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*69.7*		*"*	*100*		*69.7*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*36.4*		*"*	*50.0*		*72.7*	*14.7-104*			
Surrogate: 2-Fluorophenol		*65.0*		*"*	*100*		*65.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*39.7*		*"*	*50.0*		*79.3*	*10-103*			
Surrogate: Phenol-d5		*66.6*		*"*	*100*		*66.6*	*10-105*			
Surrogate: Terphenyl-dl4		*38.4*		*"*	*50.0*		*76.9*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C12027-BSD1)											
Acenaphthene	3/16/21 14:35	67.7	10.0	ug/L	100		67.7	45.5-108	8.00	40	
Acenaphthylene	3/16/21 14:35	66.4	10.0	"	100		66.4	46.4-114	1.81	40	
Anthracene	3/16/21 14:35	62.8	10.0	"	100		62.8	47-106	1.47	40	
Benzo (a) anthracene	3/16/21 14:35	62.2	10.0	"	100		62.2	50.8-105	12.3	40	
Benzo (b) fluoranthene	3/16/21 14:35	52.9	10.0	"	100		52.9	47-109	31.8	40	
Benzo (k) fluoranthene	3/16/21 14:35	60.9	10.0	"	100		60.9	44-111	21.4	40	
Benzo (a) pyrene	3/16/21 14:35	56.5	10.0	"	100		56.5	52.9-103	26.8	40	
Bis(2-ethylhexyl)phthalate	3/16/21 14:35	60.5	10.0	"	100		60.5	36.4-121	9.22	40	
Carbazole	3/16/21 14:35	86.9	10.0	"	100		86.9	25-172	11.9	40	
4-Chloro-3-methylphenol	3/16/21 14:35	70.4	10.0	"	100		70.4	46.4-108	16.2	40	
Chrysene	3/16/21 14:35	63.9	10.0	"	100		63.9	46.6-100	6.40	40	
Dibenz (a,h) anthracene	3/16/21 14:35	54.0	10.0	"	100		54.0	46.7-102	24.0	40	
Dibenzofuran	3/16/21 14:35	64.8	10.0	"	100		64.8	45.8-105	4.71	40	
2,4-Dimethylphenol	3/16/21 14:35	64.1	10.0	"	100		64.1	41.6-101	12.8	40	
2,4-Dinitrophenol	3/16/21 14:35	64.6	10.0	"	100		64.6	10-131	14.7	40	
Di-n-octyl phthalate	3/16/21 14:35	57.0	10.0	"	100		57.0	38.6-123	22.3	40	
Fluoranthene	3/16/21 14:35	56.7	10.0	"	100		56.7	44.9-114	8.76	40	
Fluorene	3/16/21 14:35	65.7	10.0	"	100		65.7	45.6-107	8.23	40	
Indeno (1,2,3-cd) pyrene	3/16/21 14:35	53.8	10.0	"	100		53.8	45.8-104	23.6	40	
2-Methylnaphthalene	3/16/21 14:35	66.4	10.0	"	100		66.4	44.2-104	10.4	40	
2-Methylphenol	3/16/21 14:35	69.0	10.0	"	100		69.0	44.5-103	6.37	40	
3 & 4-Methylphenol	3/16/21 14:35	133	10.0	"	200		66.6	11-149	6.24	40	
Naphthalene	3/16/21 14:35	58.0	10.0	"	100		58.0	45-100	5.74	40	
Pentachlorophenol	3/16/21 14:35	44.8	10.0	"	100		44.8	17.4-124	23.6	40	
Phenanthrene	3/16/21 14:35	63.3	10.0	"	100		63.3	49.2-107	1.86	40	
Pyrene	3/16/21 14:35	56.4	10.0	"	100		56.4	31.7-124	4.59	40	
2,4,6-Trichlorophenol	3/16/21 14:35	71.7	10.0	"	100		71.7	41.7-110	0.917	40	
Surrogate: 2,4,6-Tribromophenol		*61.6*		*"*	*100*		*61.6*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*36.7*		*"*	*50.0*		*73.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*58.8*		*"*	*100*		*58.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*37.3*		*"*	*50.0*		*74.6*	*10-103*			
Surrogate: Phenol-d5		*65.8*		*"*	*100*		*65.8*	*10-105*			
Surrogate: Terphenyl-dl4		*35.3*		*"*	*50.0*		*70.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C12027-DUP1)			**Source: 2103182-07**								
Acenaphthene	3/17/21 9:13	142	10.3	ug/L		200			34.4	45	
Acenaphthylene	3/17/21 9:13	ND	10.3	"		ND				45	
Anthracene	3/17/21 9:13	12.9	10.3	"		15.9			21.0	45	
Benzo (a) anthracene	3/17/21 9:13	ND	10.3	"		ND				45	
Benzo (b) fluoranthene	3/17/21 9:13	ND	10.3	"		ND				45	
Benzo (k) fluoranthene	3/17/21 9:13	ND	10.3	"		ND				45	
Benzo (a) pyrene	3/17/21 9:13	ND	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/17/21 9:13	ND	10.3	"		ND				45	
Carbazole	3/17/21 9:13	57.6	10.3	"		81.1			33.9	45	
4-Chloro-3-methylphenol	3/17/21 9:13	ND	10.3	"		ND				45	
Chrysene	3/17/21 9:13	ND	10.3	"		ND				45	
Dibenz (a,h) anthracene	3/17/21 9:13	ND	10.3	"		ND				45	
Dibenzofuran	3/17/21 9:13	70.9	10.3	"		89.1			22.8	45	
2,4-Dimethylphenol	3/17/21 9:13	13.2	10.3	"		15.7			17.5	45	
2,4-Dinitrophenol	3/17/21 9:13	ND	10.3	"		ND				45	
Di-n-octyl phthalate	3/17/21 9:13	ND	10.3	"		ND				45	
Fluoranthene	3/17/21 9:13	15.9	10.3	"		45.7			96.9	45	P3
Fluorene	3/17/21 9:13	78.2	10.3	"		111			35.0	45	
Indeno (1,2,3-cd) pyrene	3/17/21 9:13	ND	10.3	"		ND				45	
2-Methylnaphthalene	3/17/21 9:13	66.6	10.3	"		75.2			12.2	45	
2-Methylphenol	3/17/21 9:13	ND	10.3	"		ND				45	
3 & 4-Methylphenol	3/17/21 9:13	ND	10.3	"		ND				45	
Naphthalene	3/17/21 9:13	63.7	10.3	"		55.9			13.1	45	
Pentachlorophenol	3/17/21 9:13	ND	10.3	"		ND				45	
Phenanthrene	3/17/21 9:13	57.1	10.3	"		58.7			2.72	45	
Pyrene	3/17/21 9:13	10.3	10.3	"		28.3			93.2	45	P3
2,4,6-Trichlorophenol	3/17/21 9:13	ND	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*39.0*		*"*	*103*		*37.8*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*22.9*		*"*	*51.5*		*44.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*26.5*		*"*	*103*		*25.7*	*10-100*			
Surrogate: Nitrobenzene-d5		*23.1*		*"*	*51.5*		*44.9*	*10-103*			
Surrogate: Phenol-d5		*15.9*		*"*	*103*		*15.4*	*10-105*			
Surrogate: Terphenyl-dl4		*17.7*		*"*	*51.5*		*34.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12027 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C12027-MS1)			**Source: 2103182-07**								
Acenaphthene	3/16/21 16:51	199	10.7	ug/L	107	200	NR	21.2-106			M5
Acenaphthylene	3/16/21 16:51	67.2	10.7	"	107	ND	62.8	23.7-113			
Anthracene	3/16/21 16:51	59.6	10.7	"	107	15.9	40.8	32.7-100			
Benzo (a) anthracene	3/16/21 16:51	53.9	10.7	"	107	ND	50.4	35.6-101			
Benzo (b) fluoranthene	3/16/21 16:51	48.0	10.7	"	107	ND	44.9	38.4-100			
Benzo (k) fluoranthene	3/16/21 16:51	54.5	10.7	"	107	ND	51.0	29.6-107			
Benzo (a) pyrene	3/16/21 16:51	50.6	10.7	"	107	ND	47.3	32.7-102			
Bis(2-ethylhexyl)phthalate	3/16/21 16:51	53.0	10.7	"	107	ND	49.6	28.4-112			
Carbazole	3/16/21 16:51	125	10.7	"	107	81.1	41.5	24.9-167			
4-Chloro-3-methylphenol	3/16/21 16:51	73.6	10.7	"	107	ND	68.8	20.7-115			
Chrysene	3/16/21 16:51	55.5	10.7	"	107	ND	51.9	30.8-100			
Dibenz (a,h) anthracene	3/16/21 16:51	47.3	10.7	"	107	ND	44.3	32.3-103			
Dibenzofuran	3/16/21 16:51	123	10.7	"	107	89.1	32.0	29.1-105			
2,4-Dimethylphenol	3/16/21 16:51	78.4	10.7	"	107	15.7	58.6	15.6-114			
2,4-Dinitrophenol	3/16/21 16:51	68.0	10.7	"	107	ND	63.5	10-110			
Di-n-octyl phthalate	3/16/21 16:51	52.3	10.7	"	107	ND	48.9	19.2-118			
Fluoranthene	3/16/21 16:51	61.1	10.7	"	107	45.7	14.3	31.9-106			M2
Fluorene	3/16/21 16:51	135	10.7	"	107	111	22.4	28.1-104			M5
Indeno (1,2,3-cd) pyrene	3/16/21 16:51	47.6	10.7	"	107	ND	44.5	29.6-105			
2-Methylnaphthalene	3/16/21 16:51	124	10.7	"	107	75.2	45.2	18.5-106			
2-Methylphenol	3/16/21 16:51	56.2	10.7	"	107	ND	52.5	10-106			
3 & 4-Methylphenol	3/16/21 16:51	103	10.7	"	214	ND	48.1	10-139			
Naphthalene	3/16/21 16:51	104	10.7	"	107	55.9	45.4	17-100			
Pentachlorophenol	3/16/21 16:51	50.6	10.7	"	107	ND	47.3	10-119			
Phenanthrene	3/16/21 16:51	96.1	10.7	"	107	58.7	35.0	34.8-106			
Pyrene	3/16/21 16:51	58.7	10.7	"	107	28.3	28.4	10-127			
2,4,6-Trichlorophenol	3/16/21 16:51	60.6	10.7	"	107	ND	56.7	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*52.9*		*"*	*107*		*49.4*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*27.5*		*"*	*53.5*		*51.5*	*14.7-104*			
Surrogate: 2-Fluorophenol		*32.7*		*"*	*107*		*30.6*	*10-100*			
Surrogate: Nitrobenzene-d5		*30.6*		*"*	*53.5*		*57.1*	*10-103*			
Surrogate: Phenol-d5		*23.1*		*"*	*107*		*21.6*	*10-105*			
Surrogate: Terphenyl-dl4		*24.1*		*"*	*53.5*		*45.1*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12007 - EPA 3510C DCN 4000 Rev 12											
Blank (1C12007-BLK1)											
Pentachlorophenol	3/15/21 9:30	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*4.73*		*"*	*10.0*		*47.3*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.80*		*"*	*10.0*		*58.0*	*12.7-100*			
Surrogate: Phenol-d5		*5.72*		*"*	*10.0*		*57.2*	*16.1-100*			
LCS (1C12007-BS1)											
Pentachlorophenol	3/15/21 10:07	4.84	1.00	ug/L	10.0		48.4	10-144			
Surrogate: 2,4,6-Tribromophenol		*5.90*		*"*	*10.0*		*59.0*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.82*		*"*	*10.0*		*58.2*	*12.7-100*			
Surrogate: Phenol-d5		*6.23*		*"*	*10.0*		*62.3*	*16.1-100*			
LCS Dup (1C12007-BSD1)											
Pentachlorophenol	3/15/21 10:45	5.19	1.00	ug/L	10.0		51.9	10-144	6.98	40	
Surrogate: 2,4,6-Tribromophenol		*5.78*		*"*	*10.0*		*57.8*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.98*		*"*	*10.0*		*59.8*	*12.7-100*			
Surrogate: Phenol-d5		*6.37*		*"*	*10.0*		*63.7*	*16.1-100*			
Duplicate (1C12007-DUP1)			**Source: 2103182-09**								
Pentachlorophenol	3/15/21 16:25	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*4.90*		*"*	*10.3*		*47.5*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.85*		*"*	*10.3*		*27.6*	*12.7-100*			
Surrogate: Phenol-d5		*1.75*		*"*	*10.3*		*17.0*	*16.1-100*			
Matrix Spike (1C12007-MS1)			**Source: 2103182-09**								
Pentachlorophenol	3/15/21 17:03	6.41	1.00	ug/L	10.9	ND	59.0	20.7-138			
Surrogate: 2,4,6-Tribromophenol		*6.73*		*"*	*10.9*		*61.9*	*16.2-100*			
Surrogate: 2-Fluorophenol		*3.37*		*"*	*10.9*		*31.0*	*12.7-100*			
Surrogate: Phenol-d5		*2.25*		*"*	*10.9*		*20.7*	*16.1-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16027 - EPA 5030B											
Blank (1C16027-BLK1)											
Benzene	3/12/21 11:12	ND	5.00	ug/L							
Ethylbenzene	3/12/21 11:12	ND	5.00	"							
Surrogate: Dibromofluoromethane		*58.8*		"	*50.0*		*118*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*55.7*		"	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8		*51.6*		"	*50.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.1*		"	*50.0*		*104*	*70-130*			
Blank (1C16027-BLK2)											
Benzene	3/15/21 9:31	ND	5.00	ug/L							
Ethylbenzene	3/15/21 9:31	ND	5.00	"							
Surrogate: Dibromofluoromethane		*47.6*		"	*50.0*		*95.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.3*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*42.8*		"	*50.0*		*85.7*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*60.9*		"	*50.0*		*122*	*70-130*			
Blank (1C16027-BLK3)											
Benzene	3/16/21 10:34	ND	5.00	ug/L							
Ethylbenzene	3/16/21 10:34	ND	5.00	"							
Surrogate: Dibromofluoromethane		*57.4*		"	*50.0*		*115*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.2*		"	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*52.2*		"	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.0*		"	*50.0*		*106*	*70-130*			
LCS (1C16027-BS1)											
Benzene	3/12/21 11:38	25.5	5.00	ug/L	20.0		127	70.8-137			
Ethylbenzene	3/12/21 11:38	26.7	5.00	"	20.0		133	73.6-139			
Surrogate: Dibromofluoromethane		*55.0*		"	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.4*		"	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8		*51.0*		"	*50.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.0*		"	*50.0*		*106*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16027 - EPA 5030B											
LCS (1C16027-BS2)											
Benzene	3/15/21 10:21	17.8	5.00	ug/L	20.0		89.1	70.8-137			
Ethylbenzene	3/15/21 10:21	17.6	5.00	"	20.0		88.1	73.6-139			
Surrogate: Dibromofluoromethane		*50.1*		*"*	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.3*		*"*	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*42.5*		*"*	*50.0*		*85.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*62.4*		*"*	*50.0*		*125*	*70-130*			
LCS (1C16027-BS3)											
Benzene	3/16/21 11:05	24.2	5.00	ug/L	20.0		121	70.8-137			
Ethylbenzene	3/16/21 11:05	25.5	5.00	"	20.0		127	73.6-139			
Surrogate: Dibromofluoromethane		*53.3*		*"*	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.2*		*"*	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*52.8*		*"*	*50.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.5*		*"*	*50.0*		*107*	*70-130*			
LCS Dup (1C16027-BSD1)											
Benzene	3/12/21 12:05	25.2	5.00	ug/L	20.0		126	70.8-137	1.03	30	
Ethylbenzene	3/12/21 12:05	25.1	5.00	"	20.0		126	73.6-139	5.99	30	
Surrogate: Dibromofluoromethane		*55.2*		*"*	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.8*		*"*	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*51.5*		*"*	*50.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.9*		*"*	*50.0*		*106*	*70-130*			
LCS Dup (1C16027-BSD2)											
Benzene	3/15/21 10:45	17.8	5.00	ug/L	20.0		88.9	70.8-137	0.281	30	
Ethylbenzene	3/15/21 10:45	18.0	5.00	"	20.0		89.9	73.6-139	2.02	30	
Surrogate: Dibromofluoromethane		*50.2*		*"*	*50.0*		*100*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*54.4*		*"*	*50.0*		*109*	*70-130*			
Surrogate: Toluene-d8		*43.9*		*"*	*50.0*		*87.9*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*62.7*		*"*	*50.0*		*125*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16027 - EPA 5030B											
LCS Dup (1C16027-BSD3)											
Benzene	3/16/21 11:31	23.1	5.00	ug/L	20.0		116	70.8-137	4.48	30	
Ethylbenzene	3/16/21 11:31	24.7	5.00	"	20.0		123	73.6-139	3.35	30	
Surrogate: Dibromofluoromethane		*54.8*		"	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.5*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*52.5*		"	*50.0*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*55.0*		"	*50.0*		*110*	*70-130*			
Duplicate (1C16027-DUP1)			**Source: 2103217-10**								
Benzene	3/16/21 16:02	14.6	5.00	ug/L		15.8			7.94	35	
Ethylbenzene	3/16/21 16:02	47.4	5.00	"		48.8			2.85	35	
Surrogate: Dibromofluoromethane		*57.0*		"	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*56.1*		"	*50.0*		*112*	*70-130*			
Surrogate: Toluene-d8		*51.5*		"	*50.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.5*		"	*50.0*		*105*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 03/24/2021 08:24

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 03/24/2021 08:24

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/24/2021 08:24

1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02
SM 4500-NH3D 2011 in Water	
Ammonia as N	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 03/24/2021 08:24

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2021
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2021
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2021
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2021
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2021
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2021
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2021
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/04/2020
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2021
C12			
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2021
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2021
Not Certi			06/30/2020

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/24/2021 08:24

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Cristina D Vargas	CDV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Gayle M. Sparling	GMS
Kristy L. Pierce	KLP
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2103217

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
_x_Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH, COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA			
Preservative														
B-24	3-10-21/15:30	W	9	G	X	X	X	X	X	X	X			
B-25	3-10-21/15:20	W	9	G	X	X	X	X	X	X	X			
B-36	3-10-21/13:00	W	9	G	X	X	X	X	X	X	X			
T-1	3-10-21/10:30	W	7	G	X	X	X	X	X	X	X			
RW-7	3-10-21/10:00	W	6	G	X	X	X	X		X	X			
RW-3B	3-10-21/9:45	W	9	G	X	X	X	X	X	X	X			
RW-3A	3-10-21/9:30	W	9	G	X	X	X	X	X	X	X			
RW-6	3-10-21/9:05	W	6	G	X	X	X	X		X	X			
GCSUMP	3-10-21/8:50	W	8	G	X	X	X	X	X	X	X			
RC-3	3-10-21/8:35	W	7	G	X	X	X	X	X	X	X			
RC-2A	3-10-21/16:00	W	7	G	X	X	X	X	X	X	X			

Received on Ice Y N Thermometer# 4 Cooler # _____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample 0.8 Blank _____ Cooler X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		IEMS	3-11-21	9:36
Received by	Sarah Jones	Sarah Jones	MM	3/11/21	0936
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 1.3°c
client cooler #2 1.1°c
client cooler #3 0.9°c
client cooler #4 0.8°c

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2103217

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	OCEAN SPRINGS State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

×Normal __Next Day* __2nd Day* __Other*_____

*All rush order requests must be prior approved.

__Phone __Mail __Fax __Email

QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 1ST QTR

Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	VOA
TBV#6667	3-10-21/8:35	W	2	G	X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer#_____ Cooler #_____ **Receipt Temp Corrected(°C)** .

Date & Time _____ By: _____ Sample____ Blank____ Cooler_____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		ENS	3/11/21	9:36
Received by	Sarah Tomek		MM	3/11/21	0936
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

March 26, 2021

Ethan Allen

Work Order # : 2103253

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/12/2021 08:16. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/E-1	2103253-01	Water	03/11/2021 14:45	*Jeff Gonsoulin*	03/12/2021 08:16
Mobile/E-2	2103253-02	Water	03/11/2021 15:20	*Jeff Gonsoulin*	03/12/2021 08:16
Mobile/B-101	2103253-03	Water	03/11/2021 15:40	*Jeff Gonsoulin*	03/12/2021 08:16
Mobile/RC-3A	2103253-04	Water	03/11/2021 16:00	*Jeff Gonsoulin*	03/12/2021 08:16
Mobile/B-108A	2103253-05	Water	03/11/2021 14:30	*Jeff Gonsoulin*	03/12/2021 08:16
Trip Blank TBV#6668	2103253-06	Water	03/11/2021 14:30	*Micro Methods*	03/12/2021 08:16

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Sample Receipt Conditions

Date/Time Received: 3/12/2021 8:16:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/12/2021 8:24:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Cooler ID: client cooler #2

Receipt Temperature: 0.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Cooler ID: client cooler #3

Receipt Temperature: 0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 03/26/2021 12:35

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5
2103253-01[Mobile/E-1], 2103253-02[Mobile/E-2]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

L3 LCS/LCSD Precision Limit exceeded.

2,4-Dinitrophenol, Benzo (a) pyrene, Pentachlorophenol
1C17040-BSD1, 1C17023-BSD1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

2-Fluorobiphenyl
1C17023-BS1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH
1C12030-DUP1, 1C12030-DUP2, 2103253-01[Mobile/E-1], 2103253-02[Mobile/E-2], 2103253-03[Mobile/B-101], 2103253-04[Mobile/RC-3A], 2103253-05[Mobile/B-108A]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/E-1

2103253-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**429**	10.0	mg/L	20.0	1C12034	TKM	03/12/2021 10:00	03/16/2021 12:58	SM 4110B 2011	
Nitrate as N	**1.04**	0.500	"	1.0	"	TKM	"	03/12/2021 11:04	"	
Ammonia as N	**13.2**	0.21	"	"	1C16044	CDV	03/16/2021 14:44	03/16/2021 14:44	Lachat 10-107-06-1-I	
pH	**6.75**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1840**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C16024	ABT	03/15/2021 08:50	03/15/2021 17:27	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00256**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**201**	198	ug/L	50.0	1C17037	CRLV	03/17/2021 10:45	03/19/2021 19:32	EPA 8270D	
Acenaphthylene	**14.2**	10.4	"	1.0	"	CRLV	"	03/18/2021 22:09	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**14.4**	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**6.03**	5.94	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	**12.5**	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	**38.1**	36.5	"	5.0	"	CRLV	"	03/18/2021 20:54	"	
2,4-Dimethylphenol	ND	10.4	"	1.0	"	CRLV	"	03/18/2021 22:09	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	**91.6**	52.1	"	5.0	"	CRLV	"	03/18/2021 20:54	"	
Fluorene	**41.8**	41.7	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	1.0	"	CRLV	"	03/18/2021 22:09	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	**46.8**	41.7	"	5.0	"	CRLV	"	03/18/2021 20:54	"	
Pyrene	**75.4**	52.1	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/E-1

2103253-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
2,4,6-Trichlorophenol	ND	10.4	ug/L	1.0	1C17037	CRLV	03/17/2021 10:45	03/18/2021 22:09	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	5.51	*52.9 %*	*13.3-115*		"	CRLV	"	"	"	
2-Fluorobiphenyl	2.05	*39.4 %*	*14.7-104*		"	CRLV	"	"	"	
2-Fluorophenol	2.20	*21.1 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	1.66	*31.8 %*	*10-103*		"	CRLV	"	"	"	
Phenol-d5	1.49	*14.3 %*	*10-105*		"	CRLV	"	"	"	
Terphenyl-dl4	1.82	*35.0 %*	*10-110*		"	CRLV	"	"	"	
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C17037	CRLV	"	03/18/2021 22:09	8270 PCP by GC/MS	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2,4,6-Tribromophenol	5.51	*52.9 %*	*16.2-100*		"	CRLV	"	"	"	
2-Fluorophenol	2.20	*21.1 %*	*12.7-100*		"	CRLV	"	"	"	
Phenol-d5	1.49	*14.3 %*	*16.1-100*		"	CRLV	"	"	"	*SR05*
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**23.5**	5.00	ug/L	1.0	1C16030	SAD	03/15/2021 08:00	03/15/2021 11:57	EPA 8260D	
Ethylbenzene	**37.2**	5.00	"	"	"	SAD	"	"	"	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
Dibromofluoromethane	57.0	*114 %*	*70-130*		"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.7	*111 %*	*70-130*		"	SAD	"	"	"	
Toluene-d8	52.3	*105 %*	*70-130*		"	SAD	"	"	"	
4-Bromofluorobenzene	53.8	*108 %*	*70-130*		"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/E-2

2103253-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C17023	CRLV	03/17/2021 08:11	03/25/2021 09:37	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.115	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.208	*100 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.167	*80.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**88.9**	2.50	mg/L	5.0	1C12034	TKM	03/12/2021 10:00	03/16/2021 13:29	SM 4110B 2011	
Nitrate as N	**6.77**	0.500	"	1.0	"	TKM	"	03/12/2021 11:35	"	
Ammonia as N	**9.67**	0.21	"	"	1C16044	CDV	03/16/2021 14:45	03/16/2021 14:45	Lachat 10-107-06-1-I	
pH	**6.62**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1070**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C16024	ABT	03/15/2021 08:50	03/15/2021 17:33	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00102**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/E-2

2103253-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	1C17037	CRLV	03/17/2021 10:45	03/18/2021 22:47	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.12	*59.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.16	*42.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.29	*22.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.94	*37.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.54	*15.0 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.05	*40.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C17037	CRLV	"	03/18/2021 22:47	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.12	*59.7 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.29	*22.3 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.54	*15.0 %*	*16.1-100*	"	CRLV	"	"	"	*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/E-2

2103253-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16030	SAD	03/15/2021 08:00	03/15/2021 12:24	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	55.8	*112 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.1	*110 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.8	*106 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	53.1	*106 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/B-101

2103253-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C17023	CRLV	03/17/2021 08:11	03/25/2021 10:19	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.133	*65.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.112	*55.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.133	*65.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**51.3**	1.00	mg/L	2.0	1C12034	TKM	03/12/2021 10:00	03/16/2021 14:01	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/12/2021 12:07	"	
Ammonia as N	ND	0.21	"	"	1C16044	CDV	03/16/2021 14:46	03/16/2021 14:46	Lachat 10-107-06-1-I	
pH	**6.12**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**340**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C16024	ABT	03/15/2021 08:50	03/15/2021 16:00	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/B-101

2103253-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	1C17037	CRLV	03/17/2021 10:45	03/19/2021 00:40	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.37	*62.1 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.54	*49.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.76	*26.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.15	*42.0 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.73	*16.9 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.75	*53.6 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C17037	CRLV	"	03/19/2021 00:40	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.37	*62.1 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.76	*26.9 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.73	*16.9 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/B-101

2103253-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16030	SAD	03/15/2021 08:00	03/15/2021 12:50	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	57.1	*114 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	58.2	*116 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	51.9	*104 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	55.2	*110 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/RC-3A

2103253-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**88.8**	2.50	mg/L	5.0	1C12034	TKM	03/12/2021 10:00	03/16/2021 15:05	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/12/2021 12:39	"	
Ammonia as N	**0.56**	0.21	"	"	1C16044	CDV	03/16/2021 14:50	03/16/2021 14:50	Lachat 10-107-06-1-I	
pH	**6.05**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**475**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C16024	ABT	03/15/2021 08:50	03/15/2021 17:40	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/RC-3A

2103253-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	**70.5**	10.6	ug/L	1.0	1C17040	CRLV	03/17/2021 13:48	03/19/2021 22:08	EPA 8270D	
Acenaphthylene	ND	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.6	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	**47.2**	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.6	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	70.6	*66.7 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	31.4	*59.4 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	25.9	*24.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	26.0	*49.1 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	20.2	*19.1 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	34.4	*64.9 %*	*10-110*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D									
Benzene	ND	5.00	ug/L	1.0	1C16030	SAD	03/15/2021 08:00	03/15/2021 13:17	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/RC-3A

2103253-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.4	*113 %*	*70-130*	*1C16030*	SAD	*03/15/2021 08:00*	"	"	
1,2-Dichloroethane-d4	55.6	*111 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.8	*106 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	54.8	*110 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/B-108A

2103253-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C17023	CRLV	03/17/2021 08:11	03/24/2021 15:25	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.146	*70.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.229	*110 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.125	*60.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**2090**	50.0	mg/L	100.0	1C12034	TKM	03/12/2021 10:00	03/16/2021 15:37	SM 4110B 2011	
Nitrate as N	ND	0.500	"	1.0	"	TKM	"	03/12/2021 13:11	"	
Ammonia as N	**6.29**	0.21	"	"	1C16044	CDV	03/16/2021 14:52	03/16/2021 14:52	Lachat 10-107-06-1-I	
pH	**6.22**		pH Units	"	1C12030	GMS	03/12/2021 12:00	03/12/2021 12:00	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**4090**		umhos/cm @25.0 C	"	1C12029	GMS	03/12/2021 11:30	03/12/2021 12:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C16024	ABT	03/15/2021 08:50	03/15/2021 17:47	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.0100	"	10.0	"	ABT	"	03/18/2021 12:52	"	
Lead [He]	ND	0.00100	"	1.0	"	ABT	"	03/15/2021 17:47	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/B-108A

2103253-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.3	ug/L	1.0	1C17037	CRLV	03/17/2021 10:45	03/19/2021 00:03	EPA 8270D	
Acenaphthylene	ND	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.3	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.21	*60.5 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.63	*51.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.84	*27.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.35	*45.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.78	*17.4 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.92	*57.0 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C17037	CRLV	"	03/19/2021 00:03	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	6.21	*60.5 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.84	*27.7 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.78	*17.4 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Mobile/B-108A

2103253-05 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16030	SAD	03/15/2021 08:00	03/15/2021 14:37	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.2	*112 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.4	*109 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.5	*105 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	52.6	*105 %*	*70-130*	"	SAD	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Trip Blank TBV#6668

2103253-06 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16030	SAD	03/15/2021 08:00	03/15/2021 15:03	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.6	*113 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.0	*110 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.9	*106 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	54.2	*108 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
Blank (1C17023-BLK1)											
Benzo (a) pyrene	3/24/21 5:00	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.160*		*"*	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.140*		*"*	*0.200*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.280*		*"*	*0.200*		*140*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
LCS (1C17023-BS1)											
Benzo (a) pyrene	3/24/21 14:01	0.19	0.06	ug/L	0.200		95.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.0200*		*"*	*0.200*		*10.0*	*13.3-100*			*SR06*
Surrogate: Nitrobenzene-d5		*0.100*		*"*	*0.200*		*50.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0500*		*"*	*0.200*		*25.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C17023-BSD1)											
Benzo (a) pyrene	3/24/21 14:43	0.09	0.06	ug/L	0.200		45.0	10-149	71.4	40	L3
Surrogate: 2-Fluorobiphenyl		*0.0300*		*"*	*0.200*		*15.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.0900*		*"*	*0.200*		*45.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0700*		*"*	*0.200*		*35.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C17023-DUP1)			**Source: 2103253-03**								
Benzo (a) pyrene	3/24/21 12:38	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.113*		*"*	*0.206*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.165*		*"*	*0.206*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.124*		*"*	*0.206*		*60.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C17023-MS1)			**Source: 2103253-03**								
Benzo (a) pyrene	3/24/21 13:20	0.30	0.06	ug/L	0.204	ND	145	10-208			
Surrogate: 2-Fluorobiphenyl		*0.0918*		"	*0.204*		*45.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.163*		"	*0.204*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.102*		"	*0.204*		*50.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12029 - Default Prep GenChem											
LCS (1C12029-BS1)											
Specific Conductance (EC)	3/12/21 12:15	1430		uS/cm	1410		101	90-110			
Duplicate (1C12029-DUP1)			**Source: 2103217-01**								
Specific Conductance (EC)	3/12/21 12:15	405		umhos/cm @25.0 C		403			0.495	10	
Duplicate (1C12029-DUP2)			**Source: 2103253-01**								
Specific Conductance (EC)	3/12/21 12:15	1840		umhos/cm @25.0 C		1840			0.218	10	
Batch 1C12030 - Default Prep GenChem											
Duplicate (1C12030-DUP1)			**Source: 2103217-01**								
pH	3/12/21 12:00	5.60		pH Units		5.54			1.08	5	HT-02
Duplicate (1C12030-DUP2)			**Source: 2103253-01**								
pH	3/12/21 12:00	6.77		pH Units		6.75			0.296	5	HT-02
Batch 1C12034 - Default Prep GenChem											
Blank (1C12034-BLK1)											
Chloride	3/12/21 8:50	ND	0.500	mg/L							
Nitrate as N	3/12/21 8:50	ND	0.500	"							
LCS (1C12034-BS1)											
Chloride	3/12/21 7:46	2.87	0.500	mg/L	3.00		95.7	86.3-109			
Nitrate as N	3/12/21 7:46	2.39	0.500	"	2.26		106	81.7-111			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C12034 - Default Prep GenChem											
LCS Dup (1C12034-BSD1)											
Chloride	3/12/21 8:18	2.87	0.500	mg/L	3.00		95.8	86.3-109	0.0696	20	
Nitrate as N	3/12/21 8:18	2.15	0.500	"	2.26		95.3	81.7-111	10.3	20	
Duplicate (1C12034-DUP1)			**Source: 2103253-03**								
Chloride	3/16/21 14:33	51.5	1.00	mg/L		51.3			0.556	20	
Nitrate as N	3/12/21 17:26	ND	0.500	"		ND				20	
Batch 1C16044 - Default Prep GenChem											
Blank (1C16044-BLK1)											
Ammonia as N	3/16/21 14:15	ND	0.21	mg/L							
LCS (1C16044-BS1)											
Ammonia as N	3/16/21 14:19	5.33	0.21	mg/L	5.00		107	90-110			
LCS Dup (1C16044-BSD1)											
Ammonia as N	3/16/21 14:22	5.33	0.21	mg/L	5.00		107	90-110	0.00	10	
Matrix Spike (1C16044-MS1)			**Source: 2103253-03**								
Ammonia as N	3/16/21 14:47	5.23	0.21	mg/L	5.00	0.11	103	90-110			
Matrix Spike Dup (1C16044-MSD1)			**Source: 2103253-03**								
Ammonia as N	3/16/21 14:49	5.21	0.21	mg/L	5.00	0.11	102	90-110	0.383	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16024 - EPA 200.2 DCN 1017 Rev 9											
Blank (1C16024-BLK1)											
Arsenic [He]	3/15/21 15:00	ND	0.00200	mg/L							
Chromium [He]	3/15/21 15:00	ND	0.00100	"							
Lead [He]	3/15/21 15:00	ND	0.00100	"							
Nickel [He]	3/15/21 15:00	ND	0.0400	"							
LCS (1C16024-BS1)											
Arsenic [He]	3/15/21 15:06	0.104	0.00200	mg/L	0.100		104	85-115			
Chromium [He]	3/15/21 15:06	0.106	0.00100	"	0.100		106	85-115			
Lead [He]	3/15/21 15:06	0.100	0.00100	"	0.100		100	85-115			
Nickel [He]	3/15/21 15:06	0.105	0.0400	"	0.100		105	85-115			
LCS Dup (1C16024-BSD1)											
Arsenic [He]	3/15/21 15:13	0.104	0.00200	mg/L	0.100		104	85-115	0.472	20	
Chromium [He]	3/15/21 15:13	0.105	0.00100	"	0.100		105	85-115	0.401	20	
Lead [He]	3/15/21 15:13	0.100	0.00100	"	0.100		100	85-115	0.268	20	
Nickel [He]	3/15/21 15:13	0.105	0.0400	"	0.100		105	85-115	0.312	20	
Matrix Spike (1C16024-MS1)			**Source: 2103253-03**								
Arsenic [He]	3/15/21 16:06	0.104	0.00200	mg/L	0.100	0.0004	104	70-130			
Chromium [He]	3/15/21 16:06	0.104	0.00100	"	0.100	ND	104	70-130			
Lead [He]	3/15/21 16:06	0.101	0.00100	"	0.100	ND	101	70-130			
Nickel [He]	3/15/21 16:06	0.101	0.0400	"	0.100	0.001	99.7	70-130			
Matrix Spike Dup (1C16024-MSD1)			**Source: 2103253-03**								
Arsenic [He]	3/15/21 16:13	0.104	0.00200	mg/L	0.100	0.0004	104	70-130	0.297	20	
Chromium [He]	3/15/21 16:13	0.104	0.00100	"	0.100	ND	104	70-130	0.174	20	
Lead [He]	3/15/21 16:13	0.102	0.00100	"	0.100	ND	102	70-130	0.320	20	
Nickel [He]	3/15/21 16:13	0.103	0.0400	"	0.100	0.001	102	70-130	2.08	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Blank (1C17037-BLK1)											
Acenaphthene	3/18/21 15:55	ND	10.0	ug/L							
Acenaphthylene	3/18/21 15:55	ND	10.0	"							
Anthracene	3/18/21 15:55	ND	10.0	"							
Benzo (a) anthracene	3/18/21 15:55	ND	10.0	"							
Benzo (b) fluoranthene	3/18/21 15:55	ND	10.0	"							
Benzo (k) fluoranthene	3/18/21 15:55	ND	10.0	"							
Benzo (a) pyrene	3/18/21 15:55	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/18/21 15:55	ND	10.0	"							
Carbazole	3/18/21 15:55	ND	10.0	"							
4-Chloro-3-methylphenol	3/18/21 15:55	ND	10.0	"							
Chrysene	3/18/21 15:55	ND	10.0	"							
Dibenz (a,h) anthracene	3/18/21 15:55	ND	10.0	"							
Dibenzofuran	3/18/21 15:55	ND	10.0	"							
2,4-Dimethylphenol	3/18/21 15:55	ND	10.0	"							
2,4-Dinitrophenol	3/18/21 15:55	ND	10.0	"							
Di-n-octyl phthalate	3/18/21 15:55	ND	10.0	"							
Fluoranthene	3/18/21 15:55	ND	10.0	"							
Fluorene	3/18/21 15:55	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/18/21 15:55	ND	10.0	"							
2-Methylnaphthalene	3/18/21 15:55	ND	10.0	"							
2-Methylphenol	3/18/21 15:55	ND	10.0	"							
3 & 4-Methylphenol	3/18/21 15:55	ND	10.0	"							
Naphthalene	3/18/21 15:55	ND	10.0	"							
Pentachlorophenol	3/18/21 15:55	ND	10.0	"							
Phenanthrene	3/18/21 15:55	ND	10.0	"							
Pyrene	3/18/21 15:55	ND	10.0	"							
2,4,6-Trichlorophenol	3/18/21 15:55	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*6.03*		*"*	*10.0*		*60.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.52*		*"*	*5.00*		*70.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.62*		*"*	*10.0*		*66.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.05*		*"*	*5.00*		*61.0*	*10-103*			
Surrogate: Phenol-d5		*6.83*		*"*	*10.0*		*68.3*	*10-105*			
Surrogate: Terphenyl-dl4		*3.48*		*"*	*5.00*		*69.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
LCS (1C17037-BS1)											
Acenaphthene	3/18/21 16:31	7.53	10.0	ug/L	10.0		75.3	45.5-108			
Acenaphthylene	3/18/21 16:31	7.18	10.0	"	10.0		71.8	46.4-114			
Anthracene	3/18/21 16:31	7.17	10.0	"	10.0		71.7	47-106			
Benzo (a) anthracene	3/18/21 16:31	6.65	10.0	"	10.0		66.5	50.8-105			
Benzo (b) fluoranthene	3/18/21 16:31	7.71	10.0	"	10.0		77.1	47-109			
Benzo (k) fluoranthene	3/18/21 16:31	7.40	10.0	"	10.0		74.0	44-111			
Benzo (a) pyrene	3/18/21 16:31	7.29	10.0	"	10.0		72.9	52.9-103			
Bis(2-ethylhexyl)phthalate	3/18/21 16:31	5.96	10.0	"	10.0		59.6	36.4-121			
Carbazole	3/18/21 16:31	7.37	10.0	"	10.0		73.7	25-172			
4-Chloro-3-methylphenol	3/18/21 16:31	6.89	10.0	"	10.0		68.9	46.4-108			
Chrysene	3/18/21 16:31	6.70	10.0	"	10.0		67.0	46.6-100			
Dibenz (a,h) anthracene	3/18/21 16:31	6.97	10.0	"	10.0		69.7	46.7-102			
Dibenzofuran	3/18/21 16:31	7.44	10.0	"	10.0		74.4	45.8-105			
2,4-Dimethylphenol	3/18/21 16:31	7.88	10.0	"	10.0		78.8	41.6-101			
2,4-Dinitrophenol	3/18/21 16:31	4.98	10.0	"	10.0		49.8	10-131			
Di-n-octyl phthalate	3/18/21 16:31	6.17	10.0	"	10.0		61.7	38.6-123			
Fluoranthene	3/18/21 16:31	7.34	10.0	"	10.0		73.4	44.9-114			
Fluorene	3/18/21 16:31	7.81	10.0	"	10.0		78.1	45.6-107			
Indeno (1,2,3-cd) pyrene	3/18/21 16:31	6.92	10.0	"	10.0		69.2	45.8-104			
2-Methylnaphthalene	3/18/21 16:31	6.83	10.0	"	10.0		68.3	44.2-104			
2-Methylphenol	3/18/21 16:31	6.92	10.0	"	10.0		69.2	44.5-103			
3 & 4-Methylphenol	3/18/21 16:31	14.1	10.0	"	20.0		70.3	11-149			
Naphthalene	3/18/21 16:31	6.95	10.0	"	10.0		69.5	45-100			
Pentachlorophenol	3/18/21 16:31	4.94	10.0	"	10.0		49.4	17.4-124			
Phenanthrene	3/18/21 16:31	7.23	10.0	"	10.0		72.3	49.2-107			
Pyrene	3/18/21 16:31	7.03	10.0	"	10.0		70.3	31.7-124			
2,4,6-Trichlorophenol	3/18/21 16:31	7.00	10.0	"	10.0		70.0	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*6.30*		*"*	*10.0*		*63.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.20*		*"*	*5.00*		*64.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.70*		*"*	*10.0*		*57.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.28*		*"*	*5.00*		*65.6*	*10-103*			
Surrogate: Phenol-d5		*6.10*		*"*	*10.0*		*61.0*	*10-105*			
Surrogate: Terphenyl-dl4		*2.96*		*"*	*5.00*		*59.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C17037-BSD1)											
Acenaphthene	3/19/21 4:28	6.74	10.0	ug/L	10.0		67.4	45.5-108	11.1	40	
Acenaphthylene	3/19/21 4:28	6.73	10.0	"	10.0		67.3	46.4-114	6.47	40	
Anthracene	3/19/21 4:28	6.64	10.0	"	10.0		66.4	47-106	7.68	40	
Benzo (a) anthracene	3/19/21 4:28	6.51	10.0	"	10.0		65.1	50.8-105	2.13	40	
Benzo (b) fluoranthene	3/19/21 4:28	7.59	10.0	"	10.0		75.9	47-109	1.57	40	
Benzo (k) fluoranthene	3/19/21 4:28	7.22	10.0	"	10.0		72.2	44-111	2.46	40	
Benzo (a) pyrene	3/19/21 4:28	7.26	10.0	"	10.0		72.6	52.9-103	0.412	40	
Bis(2-ethylhexyl)phthalate	3/19/21 4:28	7.10	10.0	"	10.0		71.0	36.4-121	17.5	40	
Carbazole	3/19/21 4:28	6.71	10.0	"	10.0		67.1	25-172	9.37	40	
4-Chloro-3-methylphenol	3/19/21 4:28	6.99	10.0	"	10.0		69.9	46.4-108	1.44	40	
Chrysene	3/19/21 4:28	6.42	10.0	"	10.0		64.2	46.6-100	4.27	40	
Dibenz (a,h) anthracene	3/19/21 4:28	5.79	10.0	"	10.0		57.9	46.7-102	18.5	40	
Dibenzofuran	3/19/21 4:28	6.80	10.0	"	10.0		68.0	45.8-105	8.99	40	
2,4-Dimethylphenol	3/19/21 4:28	7.52	10.0	"	10.0		75.2	41.6-101	4.68	40	
2,4-Dinitrophenol	3/19/21 4:28	5.48	10.0	"	10.0		54.8	10-131	9.56	40	
Di-n-octyl phthalate	3/19/21 4:28	8.23	10.0	"	10.0		82.3	38.6-123	28.6	40	
Fluoranthene	3/19/21 4:28	6.78	10.0	"	10.0		67.8	44.9-114	7.93	40	
Fluorene	3/19/21 4:28	7.03	10.0	"	10.0		70.3	45.6-107	10.5	40	
Indeno (1,2,3-cd) pyrene	3/19/21 4:28	5.95	10.0	"	10.0		59.5	45.8-104	15.1	40	
2-Methylnaphthalene	3/19/21 4:28	6.42	10.0	"	10.0		64.2	44.2-104	6.19	40	
2-Methylphenol	3/19/21 4:28	6.69	10.0	"	10.0		66.9	44.5-103	3.38	40	
3 & 4-Methylphenol	3/19/21 4:28	13.5	10.0	"	20.0		67.5	11-149	4.06	40	
Naphthalene	3/19/21 4:28	6.30	10.0	"	10.0		63.0	45-100	9.81	40	
Pentachlorophenol	3/19/21 4:28	5.34	10.0	"	10.0		53.4	17.4-124	7.78	40	
Phenanthrene	3/19/21 4:28	6.53	10.0	"	10.0		65.3	49.2-107	10.2	40	
Pyrene	3/19/21 4:28	6.71	10.0	"	10.0		67.1	31.7-124	4.66	40	
2,4,6-Trichlorophenol	3/19/21 4:28	6.85	10.0	"	10.0		68.5	41.7-110	2.17	40	
Surrogate: 2,4,6-Tribromophenol		*6.70*		*"*	*10.0*		*67.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.05*		*"*	*5.00*		*61.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.48*		*"*	*10.0*		*54.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.17*		*"*	*5.00*		*63.4*	*10-103*			
Surrogate: Phenol-d5		*6.19*		*"*	*10.0*		*61.9*	*10-105*			
Surrogate: Terphenyl-dl4		*3.00*		*"*	*5.00*		*60.0*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C17037-DUP1)			**Source: 2103285-02**								
Acenaphthene	3/18/21 17:46	ND	10.8	ug/L		ND				45	
Acenaphthylene	3/18/21 17:46	ND	10.8	"		ND				45	
Anthracene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (a) anthracene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (b) fluoranthene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (k) fluoranthene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (a) pyrene	3/18/21 17:46	ND	10.8	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/18/21 17:46	ND	10.8	"		ND				45	
Carbazole	3/18/21 17:46	ND	10.8	"		ND				45	
4-Chloro-3-methylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
Chrysene	3/18/21 17:46	ND	10.8	"		ND				45	
Dibenz (a,h) anthracene	3/18/21 17:46	ND	10.8	"		ND				45	
Dibenzofuran	3/18/21 17:46	ND	10.8	"		ND				45	
2,4-Dimethylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
2,4-Dinitrophenol	3/18/21 17:46	ND	10.8	"		ND				45	
Di-n-octyl phthalate	3/18/21 17:46	ND	10.8	"		ND				45	
Fluoranthene	3/18/21 17:46	ND	10.8	"		ND				45	
Fluorene	3/18/21 17:46	ND	10.8	"		ND				45	
Indeno (1,2,3-cd) pyrene	3/18/21 17:46	ND	10.8	"		ND				45	
2-Methylnaphthalene	3/18/21 17:46	ND	10.8	"		ND				45	
2-Methylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
3 & 4-Methylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
Naphthalene	3/18/21 17:46	ND	10.8	"		ND				45	
Pentachlorophenol	3/18/21 17:46	ND	10.8	"		ND				45	
Phenanthrene	3/18/21 17:46	ND	10.8	"		ND				45	
Pyrene	3/18/21 17:46	ND	10.8	"		ND				45	
2,4,6-Trichlorophenol	3/18/21 17:46	ND	10.8	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.43*		*"*	*10.8*		*50.2*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.44*		*"*	*5.41*		*45.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.83*		*"*	*10.8*		*26.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.05*		*"*	*5.41*		*38.0*	*10-103*			
Surrogate: Phenol-d5		*1.79*		*"*	*10.8*		*16.6*	*10-105*			
Surrogate: Terphenyl-dl4		*2.66*		*"*	*5.41*		*49.2*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C17037-MS1)			**Source: 2103285-02**								
Acenaphthene	3/19/21 17:00	5.16	10.4	ug/L	10.4	ND	49.5	21.2-106			
Acenaphthylene	3/19/21 17:00	5.05	10.4	"	10.4	ND	48.5	23.7-113			
Anthracene	3/19/21 17:00	5.48	10.4	"	10.4	ND	52.6	32.7-100			
Benzo (a) anthracene	3/19/21 17:00	5.26	10.4	"	10.4	ND	50.5	35.6-101			
Benzo (b) fluoranthene	3/19/21 17:00	5.58	10.4	"	10.4	ND	53.6	38.4-100			
Benzo (k) fluoranthene	3/19/21 17:00	5.43	10.4	"	10.4	ND	52.1	29.6-107			
Benzo (a) pyrene	3/19/21 17:00	5.74	10.4	"	10.4	ND	55.1	32.7-102			
Bis(2-ethylhexyl)phthalate	3/19/21 17:00	5.18	10.4	"	10.4	ND	49.7	28.4-112			
Carbazole	3/19/21 17:00	5.43	10.4	"	10.4	ND	52.1	24.9-167			
4-Chloro-3-methylphenol	3/19/21 17:00	5.13	10.4	"	10.4	ND	49.2	20.7-115			
Chrysene	3/19/21 17:00	5.35	10.4	"	10.4	ND	51.4	30.8-100			
Dibenz (a,h) anthracene	3/19/21 17:00	5.60	10.4	"	10.4	ND	53.8	32.3-103			
Dibenzofuran	3/19/21 17:00	5.21	10.4	"	10.4	ND	50.0	29.1-105			
2,4-Dimethylphenol	3/19/21 17:00	5.71	10.4	"	10.4	ND	54.8	15.6-114			
2,4-Dinitrophenol	3/19/21 17:00	4.85	10.4	"	10.4	ND	46.6	10-110			
Di-n-octyl phthalate	3/19/21 17:00	4.74	10.4	"	10.4	ND	45.5	19.2-118			
Fluoranthene	3/19/21 17:00	5.58	10.4	"	10.4	ND	53.6	31.9-106			
Fluorene	3/19/21 17:00	5.48	10.4	"	10.4	ND	52.6	28.1-104			
Indeno (1,2,3-cd) pyrene	3/19/21 17:00	5.53	10.4	"	10.4	ND	53.1	29.6-105			
2-Methylnaphthalene	3/19/21 17:00	4.33	10.4	"	10.4	ND	41.6	18.5-106			
2-Methylphenol	3/19/21 17:00	4.28	10.4	"	10.4	ND	41.1	10-106			
3 & 4-Methylphenol	3/19/21 17:00	7.99	10.4	"	20.8	ND	38.4	10-139			
Naphthalene	3/19/21 17:00	4.25	10.4	"	10.4	ND	40.8	17-100			
Pentachlorophenol	3/19/21 17:00	5.42	10.4	"	10.4	ND	52.0	10-119			
Phenanthrene	3/19/21 17:00	5.42	10.4	"	10.4	ND	52.0	34.8-106			
Pyrene	3/19/21 17:00	4.71	10.4	"	10.4	ND	45.2	10-127			
2,4,6-Trichlorophenol	3/19/21 17:00	5.30	10.4	"	10.4	ND	50.9	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*5.85*		*"*	*10.4*		*56.2*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.46*		*"*	*5.21*		*47.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.86*		*"*	*10.4*		*27.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.52*		*"*	*5.21*		*48.4*	*10-103*			
Surrogate: Phenol-d5		*1.91*		*"*	*10.4*		*18.3*	*10-105*			
Surrogate: Terphenyl-dl4		*2.34*		*"*	*5.21*		*45.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17040 - EPA 3510C DCN 4000 Rev 12											
Blank (1C17040-BLK1)											
Acenaphthene	3/19/21 16:28	ND	10.0	ug/L							
Acenaphthylene	3/19/21 16:28	ND	10.0	"							
Anthracene	3/19/21 16:28	ND	10.0	"							
Benzo (a) anthracene	3/19/21 16:28	ND	10.0	"							
Benzo (b) fluoranthene	3/19/21 16:28	ND	10.0	"							
Benzo (k) fluoranthene	3/19/21 16:28	ND	10.0	"							
Benzo (a) pyrene	3/19/21 16:28	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/19/21 16:28	ND	10.0	"							
Carbazole	3/19/21 16:28	ND	10.0	"							
4-Chloro-3-methylphenol	3/19/21 16:28	ND	10.0	"							
Chrysene	3/19/21 16:28	ND	10.0	"							
Dibenz (a,h) anthracene	3/19/21 16:28	ND	10.0	"							
Dibenzofuran	3/19/21 16:28	ND	10.0	"							
2,4-Dimethylphenol	3/19/21 16:28	ND	10.0	"							
2,4-Dinitrophenol	3/19/21 16:28	ND	10.0	"							
Di-n-octyl phthalate	3/19/21 16:28	ND	10.0	"							
Fluoranthene	3/19/21 16:28	ND	10.0	"							
Fluorene	3/19/21 16:28	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/19/21 16:28	ND	10.0	"							
2-Methylnaphthalene	3/19/21 16:28	ND	10.0	"							
2-Methylphenol	3/19/21 16:28	ND	10.0	"							
3 & 4-Methylphenol	3/19/21 16:28	ND	10.0	"							
Naphthalene	3/19/21 16:28	ND	10.0	"							
Pentachlorophenol	3/19/21 16:28	ND	10.0	"							
Phenanthrene	3/19/21 16:28	ND	10.0	"							
Pyrene	3/19/21 16:28	ND	10.0	"							
2,4,6-Trichlorophenol	3/19/21 16:28	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*80.1*		*"*	*100*		*80.1*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*39.1*		*"*	*50.0*		*78.3*	*14.7-104*			
Surrogate: 2-Fluorophenol		*52.3*		*"*	*100*		*52.3*	*10-100*			
Surrogate: Nitrobenzene-d5		*37.4*		*"*	*50.0*		*74.7*	*10-103*			
Surrogate: Phenol-d5		*48.7*		*"*	*100*		*48.7*	*10-105*			
Surrogate: Terphenyl-dl4		*37.2*		*"*	*50.0*		*74.5*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17040 - EPA 3510C DCN 4000 Rev 12											
LCS (1C17040-BS1)											
Acenaphthene	3/19/21 20:59	63.5	10.0	ug/L	100		63.5	45.5-108			
Acenaphthylene	3/19/21 20:59	58.5	10.0	"	100		58.5	46.4-114			
Anthracene	3/19/21 20:59	60.7	10.0	"	100		60.7	47-106			
Benzo (a) anthracene	3/19/21 20:59	62.9	10.0	"	100		62.9	50.8-105			
Benzo (b) fluoranthene	3/19/21 20:59	61.6	10.0	"	100		61.6	47-109			
Benzo (k) fluoranthene	3/19/21 20:59	66.0	10.0	"	100		66.0	44-111			
Benzo (a) pyrene	3/19/21 20:59	63.2	10.0	"	100		63.2	52.9-103			
Bis(2-ethylhexyl)phthalate	3/19/21 20:59	59.2	10.0	"	100		59.2	36.4-121			
Carbazole	3/19/21 20:59	67.6	10.0	"	100		67.6	25-172			
4-Chloro-3-methylphenol	3/19/21 20:59	57.5	10.0	"	100		57.5	46.4-108			
Chrysene	3/19/21 20:59	63.0	10.0	"	100		63.0	46.6-100			
Dibenz (a,h) anthracene	3/19/21 20:59	57.9	10.0	"	100		57.9	46.7-102			
Dibenzofuran	3/19/21 20:59	62.8	10.0	"	100		62.8	45.8-105			
2,4-Dimethylphenol	3/19/21 20:59	53.1	10.0	"	100		53.1	41.6-101			
2,4-Dinitrophenol	3/19/21 20:59	66.6	10.0	"	100		66.6	10-131			
Di-n-octyl phthalate	3/19/21 20:59	67.1	10.0	"	100		67.1	38.6-123			
Fluoranthene	3/19/21 20:59	57.4	10.0	"	100		57.4	44.9-114			
Fluorene	3/19/21 20:59	62.7	10.0	"	100		62.7	45.6-107			
Indeno (1,2,3-cd) pyrene	3/19/21 20:59	59.1	10.0	"	100		59.1	45.8-104			
2-Methylnaphthalene	3/19/21 20:59	57.7	10.0	"	100		57.7	44.2-104			
2-Methylphenol	3/19/21 20:59	59.6	10.0	"	100		59.6	44.5-103			
3 & 4-Methylphenol	3/19/21 20:59	115	10.0	"	200		57.4	11-149			
Naphthalene	3/19/21 20:59	55.8	10.0	"	100		55.8	45-100			
Pentachlorophenol	3/19/21 20:59	43.4	10.0	"	100		43.4	17.4-124			
Phenanthrene	3/19/21 20:59	58.1	10.0	"	100		58.1	49.2-107			
Pyrene	3/19/21 20:59	54.8	10.0	"	100		54.8	31.7-124			
2,4,6-Trichlorophenol	3/19/21 20:59	59.6	10.0	"	100		59.6	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*76.2*		"	*100*		*76.2*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*32.5*		"	*50.0*		*64.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*52.5*		"	*100*		*52.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*27.0*		"	*50.0*		*53.9*	*10-103*			
Surrogate: Phenol-d5		*55.1*		"	*100*		*55.1*	*10-105*			
Surrogate: Terphenyl-dl4		*31.1*		"	*50.0*		*62.1*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17040 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C17040-BSD1)											
Acenaphthene	3/19/21 21:33	83.5	10.0	ug/L	100		83.5	45.5-108	27.2	40	
Acenaphthylene	3/19/21 21:33	78.4	10.0	"	100		78.4	46.4-114	29.0	40	
Anthracene	3/19/21 21:33	75.3	10.0	"	100		75.3	47-106	21.5	40	
Benzo (a) anthracene	3/19/21 21:33	84.9	10.0	"	100		84.9	50.8-105	29.8	40	
Benzo (b) fluoranthene	3/19/21 21:33	86.1	10.0	"	100		86.1	47-109	33.2	40	
Benzo (k) fluoranthene	3/19/21 21:33	93.2	10.0	"	100		93.2	44-111	34.2	40	
Benzo (a) pyrene	3/19/21 21:33	89.7	10.0	"	100		89.7	52.9-103	34.7	40	
Bis(2-ethylhexyl)phthalate	3/19/21 21:33	80.2	10.0	"	100		80.2	36.4-121	30.2	40	
Carbazole	3/19/21 21:33	87.3	10.0	"	100		87.3	25-172	25.4	40	
4-Chloro-3-methylphenol	3/19/21 21:33	76.0	10.0	"	100		76.0	46.4-108	27.7	40	
Chrysene	3/19/21 21:33	87.0	10.0	"	100		87.0	46.6-100	32.0	40	
Dibenz (a,h) anthracene	3/19/21 21:33	84.6	10.0	"	100		84.6	46.7-102	37.4	40	
Dibenzofuran	3/19/21 21:33	86.9	10.0	"	100		86.9	45.8-105	32.2	40	
2,4-Dimethylphenol	3/19/21 21:33	73.5	10.0	"	100		73.5	41.6-101	32.3	40	
2,4-Dinitrophenol	3/19/21 21:33	103	10.0	"	100		103	10-131	43.2	40	L3
Di-n-octyl phthalate	3/19/21 21:33	90.8	10.0	"	100		90.8	38.6-123	30.0	40	
Fluoranthene	3/19/21 21:33	68.3	10.0	"	100		68.3	44.9-114	17.2	40	
Fluorene	3/19/21 21:33	87.6	10.0	"	100		87.6	45.6-107	33.1	40	
Indeno (1,2,3-cd) pyrene	3/19/21 21:33	86.3	10.0	"	100		86.3	45.8-104	37.5	40	
2-Methylnaphthalene	3/19/21 21:33	75.6	10.0	"	100		75.6	44.2-104	26.9	40	
2-Methylphenol	3/19/21 21:33	84.3	10.0	"	100		84.3	44.5-103	34.4	40	
3 & 4-Methylphenol	3/19/21 21:33	160	10.0	"	200		80.1	11-149	33.0	40	
Naphthalene	3/19/21 21:33	73.9	10.0	"	100		73.9	45-100	27.9	40	
Pentachlorophenol	3/19/21 21:33	65.3	10.0	"	100		65.3	17.4-124	40.2	40	L3
Phenanthrene	3/19/21 21:33	79.9	10.0	"	100		79.9	49.2-107	31.5	40	
Pyrene	3/19/21 21:33	74.2	10.0	"	100		74.2	31.7-124	30.1	40	
2,4,6-Trichlorophenol	3/19/21 21:33	87.3	10.0	"	100		87.3	41.7-110	37.7	40	
Surrogate: 2,4,6-Tribromophenol		*112*		"	*100*		*112*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*46.9*		"	*50.0*		*93.8*	*14.7-104*			
Surrogate: 2-Fluorophenol		*102*		"	*100*		*102*	*10-102*			
Surrogate: Nitrobenzene-d5		*38.2*		"	*50.0*		*76.4*	*10-103*			
Surrogate: Phenol-d5		*77.2*		"	*100*		*77.2*	*10-105*			
Surrogate: Terphenyl-dl4		*45.5*		"	*50.0*		*91.1*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17040 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C17040-DUP1)			**Source: 2103296-01**								
Acenaphthene	3/19/21 23:16	11.4	10.3	ug/L		8.56			28.1	45	
Acenaphthylene	3/19/21 23:16	ND	10.3	"		ND				45	
Anthracene	3/19/21 23:16	ND	10.3	"		ND				45	
Benzo (a) anthracene	3/19/21 23:16	ND	10.3	"		ND				45	
Benzo (b) fluoranthene	3/19/21 23:16	ND	10.3	"		ND				45	
Benzo (k) fluoranthene	3/19/21 23:16	ND	10.3	"		ND				45	
Benzo (a) pyrene	3/19/21 23:16	ND	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/19/21 23:16	ND	10.3	"		ND				45	
Carbazole	3/19/21 23:16	ND	10.3	"		ND				45	
4-Chloro-3-methylphenol	3/19/21 23:16	ND	10.3	"		ND				45	
Chrysene	3/19/21 23:16	ND	10.3	"		ND				45	
Dibenz (a,h) anthracene	3/19/21 23:16	ND	10.3	"		ND				45	
Dibenzofuran	3/19/21 23:16	11.8	10.3	"		9.18			25.3	45	
2,4-Dimethylphenol	3/19/21 23:16	ND	10.3	"		ND				45	
2,4-Dinitrophenol	3/19/21 23:16	ND	10.3	"		ND				45	
Di-n-octyl phthalate	3/19/21 23:16	ND	10.3	"		ND				45	
Fluoranthene	3/19/21 23:16	ND	10.3	"		ND				45	
Fluorene	3/19/21 23:16	ND	10.3	"		ND				45	
Indeno (1,2,3-cd) pyrene	3/19/21 23:16	ND	10.3	"		ND				45	
2-Methylnaphthalene	3/19/21 23:16	ND	10.3	"		ND				45	
2-Methylphenol	3/19/21 23:16	ND	10.3	"		ND				45	
3 & 4-Methylphenol	3/19/21 23:16	ND	10.3	"		ND				45	
Naphthalene	3/19/21 23:16	ND	10.3	"		ND				45	
Pentachlorophenol	3/19/21 23:16	ND	10.3	"		ND				45	
Phenanthrene	3/19/21 23:16	ND	10.3	"		ND				45	
Pyrene	3/19/21 23:16	ND	10.3	"		ND				45	
2,4,6-Trichlorophenol	3/19/21 23:16	ND	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*81.4*		*"*	*103*		*79.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*31.7*		*"*	*51.3*		*61.7*	*14.7-104*			
Surrogate: 2-Fluorophenol		*30.5*		*"*	*103*		*29.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*26.9*		*"*	*51.3*		*52.5*	*10-103*			
Surrogate: Phenol-d5		*18.9*		*"*	*103*		*18.5*	*10-105*			
Surrogate: Terphenyl-dl4		*29.4*		*"*	*51.3*		*57.3*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17040 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C17040-MS1)			**Source: 2103296-01**								
Acenaphthene	3/19/21 23:50	73.1	10.6	ug/L	106	8.56	60.7	21.2-106			
Acenaphthylene	3/19/21 23:50	63.6	10.6	"	106	ND	59.8	23.7-113			
Anthracene	3/19/21 23:50	62.7	10.6	"	106	ND	59.0	32.7-100			
Benzo (a) anthracene	3/19/21 23:50	67.5	10.6	"	106	ND	63.5	35.6-101			
Benzo (b) fluoranthene	3/19/21 23:50	66.6	10.6	"	106	ND	62.6	38.4-100			
Benzo (k) fluoranthene	3/19/21 23:50	69.4	10.6	"	106	ND	65.2	29.6-107			
Benzo (a) pyrene	3/19/21 23:50	65.5	10.6	"	106	ND	61.6	32.7-102			
Bis(2-ethylhexyl)phthalate	3/19/21 23:50	69.2	10.6	"	106	ND	65.1	28.4-112			
Carbazole	3/19/21 23:50	72.9	10.6	"	106	ND	68.6	24.9-167			
4-Chloro-3-methylphenol	3/19/21 23:50	56.9	10.6	"	106	ND	53.4	20.7-115			
Chrysene	3/19/21 23:50	66.9	10.6	"	106	ND	62.9	30.8-100			
Dibenz (a,h) anthracene	3/19/21 23:50	77.0	10.6	"	106	ND	72.3	32.3-103			
Dibenzofuran	3/19/21 23:50	75.0	10.6	"	106	9.18	61.9	29.1-105			
2,4-Dimethylphenol	3/19/21 23:50	56.0	10.6	"	106	ND	52.6	15.6-114			
2,4-Dinitrophenol	3/19/21 23:50	66.0	10.6	"	106	ND	62.0	10-110			
Di-n-octyl phthalate	3/19/21 23:50	79.3	10.6	"	106	ND	74.5	19.2-118			
Fluoranthene	3/19/21 23:50	57.1	10.6	"	106	ND	53.7	31.9-106			
Fluorene	3/19/21 23:50	70.9	10.6	"	106	ND	66.7	28.1-104			
Indeno (1,2,3-cd) pyrene	3/19/21 23:50	80.6	10.6	"	106	ND	75.7	29.6-105			
2-Methylnaphthalene	3/19/21 23:50	59.4	10.6	"	106	ND	55.8	18.5-106			
2-Methylphenol	3/19/21 23:50	51.0	10.6	"	106	ND	48.0	10-106			
3 & 4-Methylphenol	3/19/21 23:50	90.0	10.6	"	213	ND	42.3	10-139			
Naphthalene	3/19/21 23:50	59.9	10.6	"	106	ND	56.3	17-100			
Pentachlorophenol	3/19/21 23:50	42.6	10.6	"	106	ND	40.1	10-119			
Phenanthrene	3/19/21 23:50	66.9	10.6	"	106	ND	62.9	34.8-106			
Pyrene	3/19/21 23:50	67.5	10.6	"	106	ND	63.4	10-127			
2,4,6-Trichlorophenol	3/19/21 23:50	62.7	10.6	"	106	ND	59.0	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*76.5*		*"*	*106*		*71.9*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*32.9*		*"*	*53.2*		*61.9*	*14.7-104*			
Surrogate: 2-Fluorophenol		*32.0*		*"*	*106*		*30.1*	*10-100*			
Surrogate: Nitrobenzene-d5		*25.5*		*"*	*53.2*		*47.9*	*10-103*			
Surrogate: Phenol-d5		*21.2*		*"*	*106*		*19.9*	*10-105*			
Surrogate: Terphenyl-dl4		*34.1*		*"*	*53.2*		*64.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Blank (1C17037-BLK1)											
Pentachlorophenol	3/18/21 15:55	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*6.03*		*"*	*10.0*		*60.3*	*16.2-100*			
Surrogate: 2-Fluorophenol		*6.62*		*"*	*10.0*		*66.2*	*12.7-100*			
Surrogate: Phenol-d5		*6.83*		*"*	*10.0*		*68.3*	*16.1-100*			
LCS (1C17037-BS1)											
Pentachlorophenol	3/18/21 16:31	4.94	1.00	ug/L	10.0		49.4	10-144			
Surrogate: 2,4,6-Tribromophenol		*6.30*		*"*	*10.0*		*63.0*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.70*		*"*	*10.0*		*57.0*	*12.7-100*			
Surrogate: Phenol-d5		*6.10*		*"*	*10.0*		*61.0*	*16.1-100*			
LCS Dup (1C17037-BSD1)											
Pentachlorophenol	3/19/21 4:28	5.34	1.00	ug/L	10.0		53.4	10-144	7.78	40	
Surrogate: 2,4,6-Tribromophenol		*6.70*		*"*	*10.0*		*67.0*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.48*		*"*	*10.0*		*54.8*	*12.7-100*			
Surrogate: Phenol-d5		*6.19*		*"*	*10.0*		*61.9*	*16.1-100*			
Duplicate (1C17037-DUP1)			**Source: 2103285-02**								
Pentachlorophenol	3/18/21 17:46	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.43*		*"*	*10.8*		*50.2*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.83*		*"*	*10.8*		*26.2*	*12.7-100*			
Surrogate: Phenol-d5		*1.79*		*"*	*10.8*		*16.6*	*16.1-100*			
Matrix Spike (1C17037-MS1)			**Source: 2103285-02**								
Pentachlorophenol	3/19/21 17:00	5.42	1.00	ug/L	10.4	ND	52.0	20.7-138			
Surrogate: 2,4,6-Tribromophenol		*5.85*		*"*	*10.4*		*56.2*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.86*		*"*	*10.4*		*27.5*	*12.7-100*			
Surrogate: Phenol-d5		*1.91*		*"*	*10.4*		*18.3*	*16.1-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16030 - EPA 5030B											
Blank (1C16030-BLK1)											
Benzene	3/15/21 10:06	ND	5.00	ug/L							
Ethylbenzene	3/15/21 10:06	ND	5.00	"							
Surrogate: Dibromofluoromethane		*57.1*		"	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*55.4*		"	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8		*53.0*		"	*50.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.0*		"	*50.0*		*108*	*70-130*			
LCS (1C16030-BS1)											
Benzene	3/15/21 10:33	23.4	5.00	ug/L	20.0		117	70.8-137			
Ethylbenzene	3/15/21 10:33	24.8	5.00	"	20.0		124	73.6-139			
Surrogate: Dibromofluoromethane		*54.7*		"	*50.0*		*109*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.1*		"	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*53.4*		"	*50.0*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.4*		"	*50.0*		*107*	*70-130*			
LCS Dup (1C16030-BSD1)											
Benzene	3/15/21 11:00	21.9	5.00	ug/L	20.0		110	70.8-137	6.62	30	
Ethylbenzene	3/15/21 11:00	22.9	5.00	"	20.0		114	73.6-139	8.30	30	
Surrogate: Dibromofluoromethane		*55.2*		"	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*56.0*		"	*50.0*		*112*	*70-130*			
Surrogate: Toluene-d8		*52.6*		"	*50.0*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*55.2*		"	*50.0*		*110*	*70-130*			
Matrix Spike (1C16030-MS1)			**Source: 2103253-04**								
Benzene	3/15/21 13:44	24.7	5.00	ug/L	20.0	ND	123	76.8-144			
Ethylbenzene	3/15/21 13:44	26.1	5.00	"	20.0	ND	130	72-147			
Surrogate: Dibromofluoromethane		*51.9*		"	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.5*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*51.4*		"	*50.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.4*		"	*50.0*		*105*	*70-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16030 - EPA 5030B											
Matrix Spike Dup (1C16030-MSD1)			**Source: 2103253-04**								
Benzene	3/15/21 14:10	25.1	5.00	ug/L	20.0	ND	125	76.8-144	1.65	35	
Ethylbenzene	3/15/21 14:10	26.1	5.00	"	20.0	ND	130	72-147	0.115	35	
Surrogate: Dibromofluoromethane		*55.1*		*"*	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.2*		*"*	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*51.5*		*"*	*50.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.2*		*"*	*50.0*		*108*	*70-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 03/26/2021 12:35

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 03/26/2021 12:35

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 12:35

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2021*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2021*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2021*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2021*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi			*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/26/2021 12:35

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Cristina D Vargas	CDV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Gayle M. Sparling	GMS
Kristy L. Pierce	KLP
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2103253

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	OCEAN SPRINGS State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	Jeff Gonsulin
Sampler Name Signed:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days
_x_Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
E-1	3-11-21/14:45	W	9	G	X	X	X	X	X	X	X
E-2	3-11-21/15:20	W	9	G	X	X	X	X	X	X	X
B-101	3-11-21/15:40	W	9	G	X	X	X	X	X	X	X
RC-3A	3-11-21/16:00	W	11	G	X	X	X	X	X	X	X
B-108A	3-11-21/14:30	W	9	G	X	X	X	X	X	X	X
TBV#6668	3-11-21/14:30	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y (N) Thermometer# 4 Cooler # 8 **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank_X_ Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsulin		EMS	3-12-21	8:16
Received by	Sarah Tomek	Sarah Tomek	MM	3/12/21	0816
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 0.2°c
client cooler #2 0.6°c
client cooler #3 0.2°c

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

March 26, 2021

Ethan Allen

Work Order # : 2103285

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/16/2021 08:23. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-128	2103285-01	Water	03/15/2021 09:30	*Jeff Gonsoulin*	03/16/2021 08:23
Mobile/B-60A	2103285-02	Water	03/15/2021 11:00	*Jeff Gonsoulin*	03/16/2021 08:23
Mobile/B-65	2103285-03	Water	03/15/2021 12:20	*Jeff Gonsoulin*	03/16/2021 08:23
Trip Blank TBV#6669	2103285-04	Water	03/15/2021 09:30	*Micro Methods*	03/16/2021 08:23

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Sample Receipt Conditions

Date/Time Received: 3/16/2021 8:23:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/16/2021 8:40:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Cooler ID: client cooler #2

Receipt Temperature: 0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: [none] Project Manager: Ethan Allen	**Reported:** 03/26/2021 12:41

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

8270 Low Level Analytes by GC/MS-8270 PCP by GC/MS

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5
2103285-03[Mobile/B-65]

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

L3 LCS/LCSD Precision Limit exceeded.

Benzo (a) pyrene
1C17023-BSD1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

2-Fluorobiphenyl
1C17023-BS1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH
1C18024-DUP1, 2103285-01[Mobile/B-128], 2103285-02[Mobile/B-60A], 2103285-03[Mobile/B-65]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-128

2103285-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.07	ug/L	1.0	1C17023	CRLV	03/17/2021 08:11	03/25/2021 11:01	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.137	*60.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.137	*60.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.126	*55.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**1250**	2.50	mg/L	50.0	1C16038	TKM	03/16/2021 11:00	03/16/2021 16:18	SM 4110B 2011	
Nitrate as N	ND	0.050	"	1.0	"	TKM	"	03/16/2021 11:22	"	
Ammonia as N	**10.1**	0.21	"	"	1C16044	CDV	03/16/2021 14:59	03/16/2021 14:59	Lachat 10-107-06-1-I	
pH	**6.18**		pH Units	"	1C18024	GMS	03/17/2021 16:00	03/17/2021 16:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**3130**		umhos/cm @25.0 C	"	1C18023	GMS	03/17/2021 15:45	03/17/2021 16:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00400	mg/L	2.0	1C18029	ABT	03/18/2021 08:30	03/23/2021 01:10	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00401**	0.00200	"	"	"	ABT	"	"	"	
Lead [He]	**0.00323**	0.00100	"	1.0	"	ABT	"	03/18/2021 16:45	"	
Nickel [He]	ND	0.0800	"	2.0	"	ABT	"	03/23/2021 01:10	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-128

2103285-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.5	ug/L	1.0	1C17037	CRLV	03/17/2021 10:45	03/18/2021 23:25	EPA 8270D	
Acenaphthylene	ND	10.5	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.5	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.5	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	7.20	*68.8 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.73	*52.2 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.69	*25.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.21	*42.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.83	*17.5 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.66	*50.8 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C17037	CRLV	"	03/18/2021 23:25	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	7.20	*68.8 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.69	*25.7 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.83	*17.5 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-128

2103285-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16026	SAD	03/16/2021 08:00	03/16/2021 14:16	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.4	*113 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	53.4	*107 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.0	*104 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	53.6	*107 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-60A

2103285-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C17023	CRLV	03/17/2021 08:11	03/24/2021 05:42	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.115	*55.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.157	*75.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.136	*65.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**22.3**	0.050	mg/L	1.0	1C16038	TKM	03/16/2021 11:00	03/16/2021 11:54	SM 4110B 2011	
Nitrate as N	**2.79**	0.050	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	"	1C16044	CDV	03/16/2021 15:00	03/16/2021 15:00	Lachat 10-107-06-1-I	
pH	**5.94**		pH Units	"	1C18024	GMS	03/17/2021 16:00	03/17/2021 16:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**204**		umhos/cm @25.0 C	"	1C18023	GMS	03/17/2021 15:45	03/17/2021 16:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C18029	ABT	03/18/2021 08:30	03/18/2021 16:51	EPA 200.8 Rev 5.4	
Chromium [He]	**0.0483**	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	**0.134**	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-60A

2103285-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.4	ug/L	1.0	1C17037	CRLV	03/17/2021 10:45	03/18/2021 19:01	EPA 8270D	
Acenaphthylene	ND	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.4	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.53	*53.4 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.42	*46.8 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.83	*27.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.08	*40.2 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.78	*17.2 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.72	*52.4 %*	*10-110*	"	CRLV	"	"	"	

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Low Level Analytes by GCMS-SW-846 Method 8270D										
Pentachlorophenol	ND	1.00	ug/L	1.0	1C17037	CRLV	"	03/18/2021 19:01	8270 PCP by GC/MS	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	5.53	*53.4 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.83	*27.3 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.78	*17.2 %*	*16.1-100*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-60A

2103285-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16026	SAD	03/16/2021 08:00	03/16/2021 14:42	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.5	*113 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	54.1	*108 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.4	*105 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	52.8	*106 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-65

2103285-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS										
Benzo (a) pyrene	ND	0.06	ug/L	1.0	1C17023	CRLV	03/17/2021 08:11	03/24/2021 06:23	EPA 8270D	
Surrogate		***% Rec***	***Rec Limits***		***Batch***		***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Notes***
2-Fluorobiphenyl	0.139	*65.0 %*	*11.7-131*		"	CRLV	"	"	"	
Nitrobenzene-d5	0.150	*70.0 %*	*19.6-113*		"	CRLV	"	"	"	
Terphenyl-dl4	0.128	*60.0 %*	*11.3-166*		"	CRLV	"	"	"	
Classical Chemistry Parameters										
Chloride	**29.0**	0.050	mg/L	1.0	1C16038	TKM	03/16/2021 11:00	03/16/2021 12:26	SM 4110B 2011	
Nitrate as N	**2.63**	0.050	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.21	"	"	1C16044	CDV	03/16/2021 15:01	03/16/2021 15:01	Lachat 10-107-06-1-I	
pH	**5.87**		pH Units	"	1C18024	GMS	03/17/2021 16:00	03/17/2021 16:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**224**		umhos/cm @25.0 C	"	1C18023	GMS	03/17/2021 15:45	03/17/2021 16:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]										
Arsenic [He]	ND	0.00200	mg/L	1.0	1C18029	ABT	03/18/2021 08:30	03/18/2021 16:58	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Lead [He]	ND	0.00100	"	"	"	ABT	"	"	"	
Nickel [He]	ND	0.0400	"	"	"	ABT	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D										

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-65

2103285-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D										
Acenaphthene	ND	10.6	ug/L	1.0	1C17037	CRLV	03/17/2021 10:45	03/19/2021 05:43	EPA 8270D	
Acenaphthylene	ND	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	10.6	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	10.6	"	"	"	CRLV	"	"	"	
Fluorene	ND	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	10.6	"	"	"	CRLV	"	"	"	
Pyrene	ND	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	10.6	"	"	"	CRLV	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	4.47	*42.0 %*	*13.3-115*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.21	*41.6 %*	*14.7-104*	"	CRLV	"	"	"	
2-Fluorophenol	2.65	*24.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.90	*35.8 %*	*10-103*	"	CRLV	"	"	"	
Phenol-d5	1.59	*14.9 %*	*10-105*	"	CRLV	"	"	"	
Terphenyl-dl4	2.34	*44.0 %*	*10-110*	"	CRLV	"	"	"	

Low Level Analytes by GCMS-SW-846 Method 8270D									
Pentachlorophenol	ND	1.00	ug/L	1.0	1C17037	CRLV	"	03/19/2021 05:43	8270 PCP by GC/MS

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
2,4,6-Tribromophenol	4.47	*42.0 %*	*16.2-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.65	*24.9 %*	*12.7-100*	"	CRLV	"	"	"	
Phenol-d5	1.59	*14.9 %*	*16.1-100*	"	CRLV	"	"	"	*SR05*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Mobile/B-65

2103285-03 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16026	SAD	03/16/2021 08:00	03/16/2021 15:09	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.8	*114 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	55.9	*112 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	52.2	*104 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	52.2	*104 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Trip Blank TBV#6669

2103285-04 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C16026	SAD	03/16/2021 08:00	03/16/2021 15:36	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	SAD	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	56.3	*113 %*	*70-130*	"	SAD	"	"	"	
1,2-Dichloroethane-d4	57.0	*114 %*	*70-130*	"	SAD	"	"	"	
Toluene-d8	53.0	*106 %*	*70-130*	"	SAD	"	"	"	
4-Bromofluorobenzene	55.2	*110 %*	*70-130*	"	SAD	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
Blank (1C17023-BLK1)											
Benzo (a) pyrene	3/24/21 5:00	ND	0.06	ug/L							
Surrogate: 2-Fluorobiphenyl		*0.160*		*"*	*0.200*		*80.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.140*		*"*	*0.200*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.280*		*"*	*0.200*		*140*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
LCS (1C17023-BS1)											
Benzo (a) pyrene	3/24/21 14:01	0.19	0.06	ug/L	0.200		95.0	10-149			
Surrogate: 2-Fluorobiphenyl		*0.0200*		*"*	*0.200*		*10.0*	*13.3-100*			*SR06*
Surrogate: Nitrobenzene-d5		*0.100*		*"*	*0.200*		*50.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0500*		*"*	*0.200*		*25.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C17023-BSD1)											
Benzo (a) pyrene	3/24/21 14:43	0.09	0.06	ug/L	0.200		45.0	10-149	71.4	40	L3
Surrogate: 2-Fluorobiphenyl		*0.0300*		*"*	*0.200*		*15.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.0900*		*"*	*0.200*		*45.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.0700*		*"*	*0.200*		*35.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C17023-DUP1)			**Source: 2103253-03**								
Benzo (a) pyrene	3/24/21 12:38	ND	0.06	ug/L		ND				200	
Surrogate: 2-Fluorobiphenyl		*0.113*		*"*	*0.206*		*55.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.165*		*"*	*0.206*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.124*		*"*	*0.206*		*60.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17023 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C17023-MS1)			**Source: 2103253-03**								
Benzo (a) pyrene	3/24/21 13:20	0.30	0.06	ug/L	0.204	ND	145	10-208			
Surrogate: 2-Fluorobiphenyl		*0.0918*		"	*0.204*		*45.0*	*13.3-100*			
Surrogate: Nitrobenzene-d5		*0.163*		"	*0.204*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4		*0.102*		"	*0.204*		*50.0*	*11.3-163*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16038 - Default Prep GenChem											
Blank (1C16038-BLK1)											
Chloride	3/16/21 10:50	ND	0.050	mg/L							
Nitrate as N	3/16/21 10:50	ND	0.050	"							
Blank (1C16038-BLK2)											
Chloride	3/17/21 10:45	ND	0.050	mg/L							
Nitrate as N	3/17/21 10:45	ND	0.050	"							
LCS (1C16038-BS1)											
Chloride	3/16/21 9:14	2.97	0.050	mg/L	3.00		98.9	86.3-109			
Nitrate as N	3/16/21 9:14	2.18	0.050	"	2.26		96.4	81.7-111			
LCS (1C16038-BS2)											
Chloride	3/17/21 9:09	2.91	0.050	mg/L	3.00		97.1	86.3-109			
Nitrate as N	3/17/21 9:09	2.12	0.050	"	2.26		93.9	81.7-111			
LCS Dup (1C16038-BSD1)											
Chloride	3/16/21 9:46	2.99	0.050	mg/L	3.00		99.5	86.3-109	0.605	20	
Nitrate as N	3/16/21 9:46	2.18	0.050	"	2.26		96.3	81.7-111	0.0919	20	
LCS Dup (1C16038-BSD2)											
Chloride	3/17/21 9:41	2.94	0.050	mg/L	3.00		98.0	86.3-109	0.957	20	
Nitrate as N	3/17/21 9:41	2.14	0.050	"	2.26		94.6	81.7-111	0.657	20	
Duplicate (1C16038-DUP1)			**Source: 2103285-02**								
Chloride	3/16/21 16:50	22.3	0.050	mg/L		22.3			0.269	20	
Nitrate as N	3/16/21 16:50	2.79	0.050	"		2.79			0.0358	20	
Matrix Spike (1C16038-MS1)			**Source: 2103285-03**								
Chloride	3/16/21 17:22	38.7	0.050	mg/L	10.0	29.0	96.8	76.2-122			
Nitrate as N	3/16/21 17:22	4.74	0.050	"	2.26	2.63	93.2	60.8-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16038 - Default Prep GenChem											
Matrix Spike Dup (1C16038-MSD1)			**Source: 2103285-03**								
Chloride	3/16/21 17:53	38.8	0.050	mg/L	10.0	29.0	97.3	76.2-122	0.127	20	
Nitrate as N	3/16/21 17:53	4.78	0.050	"	2.26	2.63	94.8	60.8-130	0.756	20	
Batch 1C16044 - Default Prep GenChem											
Blank (1C16044-BLK1)											
Ammonia as N	3/16/21 14:15	ND	0.21	mg/L							
LCS (1C16044-BS1)											
Ammonia as N	3/16/21 14:19	5.33	0.21	mg/L	5.00		107	90-110			
LCS Dup (1C16044-BSD1)											
Ammonia as N	3/16/21 14:22	5.33	0.21	mg/L	5.00		107	90-110	0.00	10	
Matrix Spike (1C16044-MS1)			**Source: 2103253-03**								
Ammonia as N	3/16/21 14:47	5.23	0.21	mg/L	5.00	0.11	103	90-110			
Matrix Spike Dup (1C16044-MSD1)			**Source: 2103253-03**								
Ammonia as N	3/16/21 14:49	5.21	0.21	mg/L	5.00	0.11	102	90-110	0.383	10	
Batch 1C18023 - Default Prep GenChem											
LCS (1C18023-BS1)											
Specific Conductance (EC)	3/17/21 16:00	1420		uS/cm	1410		101	90-110			
Duplicate (1C18023-DUP1)			**Source: 2103294-01**								
Specific Conductance (EC)	3/17/21 16:00	2920		umhos/cm @25.0 C		2940			0.683	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C18024 - Default Prep GenChem											
Duplicate (1C18024-DUP1)			**Source: 2103285-03**								
pH	3/17/21 16:15	5.87		pH Units		5.87			0.00	5	HT-02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C18029 - EPA 200.2 DCN 1017 Rev 9											
Blank (1C18029-BLK1)											
Arsenic [He]	3/18/21 14:40	ND	0.00200	mg/L							
Chromium [He]	3/18/21 14:40	ND	0.00100	"							
Lead [He]	3/18/21 14:40	ND	0.00100	"							
Nickel [He]	3/18/21 14:40	ND	0.0400	"							
LCS (1C18029-BS1)											
Arsenic [He]	3/18/21 14:47	0.106	0.00200	mg/L	0.100		106	85-115			
Chromium [He]	3/18/21 14:47	0.105	0.00100	"	0.100		105	85-115			
Lead [He]	3/18/21 14:47	0.101	0.00100	"	0.100		101	85-115			
Nickel [He]	3/18/21 14:47	0.106	0.0400	"	0.100		106	85-115			
LCS Dup (1C18029-BSD1)											
Arsenic [He]	3/18/21 14:53	0.104	0.00200	mg/L	0.100		104	85-115	1.71	20	
Chromium [He]	3/18/21 14:53	0.103	0.00100	"	0.100		103	85-115	1.65	20	
Lead [He]	3/18/21 14:53	0.101	0.00100	"	0.100		101	85-115	0.712	20	
Nickel [He]	3/18/21 14:53	0.106	0.0400	"	0.100		106	85-115	0.513	20	
Matrix Spike (1C18029-MS1)			**Source: 2103295-01**								
Arsenic [He]	3/18/21 15:06	0.106	0.00200	mg/L	0.100	ND	106	70-130			
Chromium [He]	3/18/21 15:06	0.106	0.00100	"	0.100	ND	106	70-130			
Lead [He]	3/18/21 15:06	0.102	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	3/18/21 15:06	0.112	0.0400	"	0.100	0.003	109	70-130			
Matrix Spike (1C18029-MS2)			**Source: 2103295-02**								
Arsenic [He]	3/18/21 15:26	0.106	0.00200	mg/L	0.100	ND	106	70-130			
Chromium [He]	3/18/21 15:26	0.106	0.00100	"	0.100	ND	106	70-130			
Lead [He]	3/18/21 15:26	0.102	0.00100	"	0.100	0.0004	102	70-130			
Nickel [He]	3/18/21 15:26	0.109	0.0400	"	0.100	0.001	107	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C18029 - EPA 200.2 DCN 1017 Rev 9											
Matrix Spike Dup (1C18029-MSD1)			**Source: 2103295-01**								
Arsenic [He]	3/18/21 15:13	0.106	0.00200	mg/L	0.100	ND	106	70-130	0.149	20	
Chromium [He]	3/18/21 15:13	0.105	0.00100	"	0.100	ND	105	70-130	0.658	20	
Lead [He]	3/18/21 15:13	0.102	0.00100	"	0.100	ND	102	70-130	0.0978	20	
Nickel [He]	3/18/21 15:13	0.111	0.0400	"	0.100	0.003	108	70-130	0.670	20	
Matrix Spike Dup (1C18029-MSD2)			**Source: 2103295-02**								
Arsenic [He]	3/18/21 15:32	0.105	0.00200	mg/L	0.100	ND	105	70-130	1.04	20	
Chromium [He]	3/18/21 15:32	0.105	0.00100	"	0.100	ND	105	70-130	0.395	20	
Lead [He]	3/18/21 15:32	0.101	0.00100	"	0.100	0.0004	100	70-130	1.23	20	
Nickel [He]	3/18/21 15:32	0.107	0.0400	"	0.100	0.001	106	70-130	1.54	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Blank (1C17037-BLK1)											
Acenaphthene	3/18/21 15:55	ND	10.0	ug/L							
Acenaphthylene	3/18/21 15:55	ND	10.0	"							
Anthracene	3/18/21 15:55	ND	10.0	"							
Benzo (a) anthracene	3/18/21 15:55	ND	10.0	"							
Benzo (b) fluoranthene	3/18/21 15:55	ND	10.0	"							
Benzo (k) fluoranthene	3/18/21 15:55	ND	10.0	"							
Benzo (a) pyrene	3/18/21 15:55	ND	10.0	"							
Bis(2-ethylhexyl)phthalate	3/18/21 15:55	ND	10.0	"							
Carbazole	3/18/21 15:55	ND	10.0	"							
4-Chloro-3-methylphenol	3/18/21 15:55	ND	10.0	"							
Chrysene	3/18/21 15:55	ND	10.0	"							
Dibenz (a,h) anthracene	3/18/21 15:55	ND	10.0	"							
Dibenzofuran	3/18/21 15:55	ND	10.0	"							
2,4-Dimethylphenol	3/18/21 15:55	ND	10.0	"							
2,4-Dinitrophenol	3/18/21 15:55	ND	10.0	"							
Di-n-octyl phthalate	3/18/21 15:55	ND	10.0	"							
Fluoranthene	3/18/21 15:55	ND	10.0	"							
Fluorene	3/18/21 15:55	ND	10.0	"							
Indeno (1,2,3-cd) pyrene	3/18/21 15:55	ND	10.0	"							
2-Methylnaphthalene	3/18/21 15:55	ND	10.0	"							
2-Methylphenol	3/18/21 15:55	ND	10.0	"							
3 & 4-Methylphenol	3/18/21 15:55	ND	10.0	"							
Naphthalene	3/18/21 15:55	ND	10.0	"							
Pentachlorophenol	3/18/21 15:55	ND	10.0	"							
Phenanthrene	3/18/21 15:55	ND	10.0	"							
Pyrene	3/18/21 15:55	ND	10.0	"							
2,4,6-Trichlorophenol	3/18/21 15:55	ND	10.0	"							
Surrogate: 2,4,6-Tribromophenol		*6.03*		*"*	*10.0*		*60.3*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.52*		*"*	*5.00*		*70.4*	*14.7-104*			
Surrogate: 2-Fluorophenol		*6.62*		*"*	*10.0*		*66.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.05*		*"*	*5.00*		*61.0*	*10-103*			
Surrogate: Phenol-d5		*6.83*		*"*	*10.0*		*68.3*	*10-105*			
Surrogate: Terphenyl-dl4		*3.48*		*"*	*5.00*		*69.6*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
LCS (1C17037-BS1)											
Acenaphthene	3/18/21 16:31	7.53	10.0	ug/L	10.0		75.3	45.5-108			
Acenaphthylene	3/18/21 16:31	7.18	10.0	"	10.0		71.8	46.4-114			
Anthracene	3/18/21 16:31	7.17	10.0	"	10.0		71.7	47-106			
Benzo (a) anthracene	3/18/21 16:31	6.65	10.0	"	10.0		66.5	50.8-105			
Benzo (b) fluoranthene	3/18/21 16:31	7.71	10.0	"	10.0		77.1	47-109			
Benzo (k) fluoranthene	3/18/21 16:31	7.40	10.0	"	10.0		74.0	44-111			
Benzo (a) pyrene	3/18/21 16:31	7.29	10.0	"	10.0		72.9	52.9-103			
Bis(2-ethylhexyl)phthalate	3/18/21 16:31	5.96	10.0	"	10.0		59.6	36.4-121			
Carbazole	3/18/21 16:31	7.37	10.0	"	10.0		73.7	25-172			
4-Chloro-3-methylphenol	3/18/21 16:31	6.89	10.0	"	10.0		68.9	46.4-108			
Chrysene	3/18/21 16:31	6.70	10.0	"	10.0		67.0	46.6-100			
Dibenz (a,h) anthracene	3/18/21 16:31	6.97	10.0	"	10.0		69.7	46.7-102			
Dibenzofuran	3/18/21 16:31	7.44	10.0	"	10.0		74.4	45.8-105			
2,4-Dimethylphenol	3/18/21 16:31	7.88	10.0	"	10.0		78.8	41.6-101			
2,4-Dinitrophenol	3/18/21 16:31	4.98	10.0	"	10.0		49.8	10-131			
Di-n-octyl phthalate	3/18/21 16:31	6.17	10.0	"	10.0		61.7	38.6-123			
Fluoranthene	3/18/21 16:31	7.34	10.0	"	10.0		73.4	44.9-114			
Fluorene	3/18/21 16:31	7.81	10.0	"	10.0		78.1	45.6-107			
Indeno (1,2,3-cd) pyrene	3/18/21 16:31	6.92	10.0	"	10.0		69.2	45.8-104			
2-Methylnaphthalene	3/18/21 16:31	6.83	10.0	"	10.0		68.3	44.2-104			
2-Methylphenol	3/18/21 16:31	6.92	10.0	"	10.0		69.2	44.5-103			
3 & 4-Methylphenol	3/18/21 16:31	14.1	10.0	"	20.0		70.3	11-149			
Naphthalene	3/18/21 16:31	6.95	10.0	"	10.0		69.5	45-100			
Pentachlorophenol	3/18/21 16:31	4.94	10.0	"	10.0		49.4	17.4-124			
Phenanthrene	3/18/21 16:31	7.23	10.0	"	10.0		72.3	49.2-107			
Pyrene	3/18/21 16:31	7.03	10.0	"	10.0		70.3	31.7-124			
2,4,6-Trichlorophenol	3/18/21 16:31	7.00	10.0	"	10.0		70.0	41.7-110			
Surrogate: 2,4,6-Tribromophenol		*6.30*		*"*	*10.0*		*63.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.20*		*"*	*5.00*		*64.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.70*		*"*	*10.0*		*57.0*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.28*		*"*	*5.00*		*65.6*	*10-103*			
Surrogate: Phenol-d5		*6.10*		*"*	*10.0*		*61.0*	*10-105*			
Surrogate: Terphenyl-dl4		*2.96*		*"*	*5.00*		*59.2*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1C17037-BSD1)											
Acenaphthene	3/19/21 4:28	6.74	10.0	ug/L	10.0		67.4	45.5-108	11.1	40	
Acenaphthylene	3/19/21 4:28	6.73	10.0	"	10.0		67.3	46.4-114	6.47	40	
Anthracene	3/19/21 4:28	6.64	10.0	"	10.0		66.4	47-106	7.68	40	
Benzo (a) anthracene	3/19/21 4:28	6.51	10.0	"	10.0		65.1	50.8-105	2.13	40	
Benzo (b) fluoranthene	3/19/21 4:28	7.59	10.0	"	10.0		75.9	47-109	1.57	40	
Benzo (k) fluoranthene	3/19/21 4:28	7.22	10.0	"	10.0		72.2	44-111	2.46	40	
Benzo (a) pyrene	3/19/21 4:28	7.26	10.0	"	10.0		72.6	52.9-103	0.412	40	
Bis(2-ethylhexyl)phthalate	3/19/21 4:28	7.10	10.0	"	10.0		71.0	36.4-121	17.5	40	
Carbazole	3/19/21 4:28	6.71	10.0	"	10.0		67.1	25-172	9.37	40	
4-Chloro-3-methylphenol	3/19/21 4:28	6.99	10.0	"	10.0		69.9	46.4-108	1.44	40	
Chrysene	3/19/21 4:28	6.42	10.0	"	10.0		64.2	46.6-100	4.27	40	
Dibenz (a,h) anthracene	3/19/21 4:28	5.79	10.0	"	10.0		57.9	46.7-102	18.5	40	
Dibenzofuran	3/19/21 4:28	6.80	10.0	"	10.0		68.0	45.8-105	8.99	40	
2,4-Dimethylphenol	3/19/21 4:28	7.52	10.0	"	10.0		75.2	41.6-101	4.68	40	
2,4-Dinitrophenol	3/19/21 4:28	5.48	10.0	"	10.0		54.8	10-131	9.56	40	
Di-n-octyl phthalate	3/19/21 4:28	8.23	10.0	"	10.0		82.3	38.6-123	28.6	40	
Fluoranthene	3/19/21 4:28	6.78	10.0	"	10.0		67.8	44.9-114	7.93	40	
Fluorene	3/19/21 4:28	7.03	10.0	"	10.0		70.3	45.6-107	10.5	40	
Indeno (1,2,3-cd) pyrene	3/19/21 4:28	5.95	10.0	"	10.0		59.5	45.8-104	15.1	40	
2-Methylnaphthalene	3/19/21 4:28	6.42	10.0	"	10.0		64.2	44.2-104	6.19	40	
2-Methylphenol	3/19/21 4:28	6.69	10.0	"	10.0		66.9	44.5-103	3.38	40	
3 & 4-Methylphenol	3/19/21 4:28	13.5	10.0	"	20.0		67.5	11-149	4.06	40	
Naphthalene	3/19/21 4:28	6.30	10.0	"	10.0		63.0	45-100	9.81	40	
Pentachlorophenol	3/19/21 4:28	5.34	10.0	"	10.0		53.4	17.4-124	7.78	40	
Phenanthrene	3/19/21 4:28	6.53	10.0	"	10.0		65.3	49.2-107	10.2	40	
Pyrene	3/19/21 4:28	6.71	10.0	"	10.0		67.1	31.7-124	4.66	40	
2,4,6-Trichlorophenol	3/19/21 4:28	6.85	10.0	"	10.0		68.5	41.7-110	2.17	40	
Surrogate: 2,4,6-Tribromophenol		*6.70*		*"*	*10.0*		*67.0*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*3.05*		*"*	*5.00*		*61.0*	*14.7-104*			
Surrogate: 2-Fluorophenol		*5.48*		*"*	*10.0*		*54.8*	*10-100*			
Surrogate: Nitrobenzene-d5		*3.17*		*"*	*5.00*		*63.4*	*10-103*			
Surrogate: Phenol-d5		*6.19*		*"*	*10.0*		*61.9*	*10-105*			
Surrogate: Terphenyl-dl4		*3.00*		*"*	*5.00*		*60.0*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1C17037-DUP1)			**Source: 2103285-02**								
Acenaphthene	3/18/21 17:46	ND	10.8	ug/L		ND				45	
Acenaphthylene	3/18/21 17:46	ND	10.8	"		ND				45	
Anthracene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (a) anthracene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (b) fluoranthene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (k) fluoranthene	3/18/21 17:46	ND	10.8	"		ND				45	
Benzo (a) pyrene	3/18/21 17:46	ND	10.8	"		ND				45	
Bis(2-ethylhexyl)phthalate	3/18/21 17:46	ND	10.8	"		ND				45	
Carbazole	3/18/21 17:46	ND	10.8	"		ND				45	
4-Chloro-3-methylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
Chrysene	3/18/21 17:46	ND	10.8	"		ND				45	
Dibenz (a,h) anthracene	3/18/21 17:46	ND	10.8	"		ND				45	
Dibenzofuran	3/18/21 17:46	ND	10.8	"		ND				45	
2,4-Dimethylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
2,4-Dinitrophenol	3/18/21 17:46	ND	10.8	"		ND				45	
Di-n-octyl phthalate	3/18/21 17:46	ND	10.8	"		ND				45	
Fluoranthene	3/18/21 17:46	ND	10.8	"		ND				45	
Fluorene	3/18/21 17:46	ND	10.8	"		ND				45	
Indeno (1,2,3-cd) pyrene	3/18/21 17:46	ND	10.8	"		ND				45	
2-Methylnaphthalene	3/18/21 17:46	ND	10.8	"		ND				45	
2-Methylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
3 & 4-Methylphenol	3/18/21 17:46	ND	10.8	"		ND				45	
Naphthalene	3/18/21 17:46	ND	10.8	"		ND				45	
Pentachlorophenol	3/18/21 17:46	ND	10.8	"		ND				45	
Phenanthrene	3/18/21 17:46	ND	10.8	"		ND				45	
Pyrene	3/18/21 17:46	ND	10.8	"		ND				45	
2,4,6-Trichlorophenol	3/18/21 17:46	ND	10.8	"		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.43*		*"*	*10.8*		*50.2*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.44*		*"*	*5.41*		*45.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.83*		*"*	*10.8*		*26.2*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.05*		*"*	*5.41*		*38.0*	*10-103*			
Surrogate: Phenol-d5		*1.79*		*"*	*10.8*		*16.6*	*10-105*			
Surrogate: Terphenyl-dl4		*2.66*		*"*	*5.41*		*49.2*	*10-110*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (1C17037-MS1)			**Source: 2103285-02**								
Acenaphthene	3/19/21 17:00	5.16	10.4	ug/L	10.4	ND	49.5	21.2-106			
Acenaphthylene	3/19/21 17:00	5.05	10.4	"	10.4	ND	48.5	23.7-113			
Anthracene	3/19/21 17:00	5.48	10.4	"	10.4	ND	52.6	32.7-100			
Benzo (a) anthracene	3/19/21 17:00	5.26	10.4	"	10.4	ND	50.5	35.6-101			
Benzo (b) fluoranthene	3/19/21 17:00	5.58	10.4	"	10.4	ND	53.6	38.4-100			
Benzo (k) fluoranthene	3/19/21 17:00	5.43	10.4	"	10.4	ND	52.1	29.6-107			
Benzo (a) pyrene	3/19/21 17:00	5.74	10.4	"	10.4	ND	55.1	32.7-102			
Bis(2-ethylhexyl)phthalate	3/19/21 17:00	5.18	10.4	"	10.4	ND	49.7	28.4-112			
Carbazole	3/19/21 17:00	5.43	10.4	"	10.4	ND	52.1	24.9-167			
4-Chloro-3-methylphenol	3/19/21 17:00	5.13	10.4	"	10.4	ND	49.2	20.7-115			
Chrysene	3/19/21 17:00	5.35	10.4	"	10.4	ND	51.4	30.8-100			
Dibenz (a,h) anthracene	3/19/21 17:00	5.60	10.4	"	10.4	ND	53.8	32.3-103			
Dibenzofuran	3/19/21 17:00	5.21	10.4	"	10.4	ND	50.0	29.1-105			
2,4-Dimethylphenol	3/19/21 17:00	5.71	10.4	"	10.4	ND	54.8	15.6-114			
2,4-Dinitrophenol	3/19/21 17:00	4.85	10.4	"	10.4	ND	46.6	10-110			
Di-n-octyl phthalate	3/19/21 17:00	4.74	10.4	"	10.4	ND	45.5	19.2-118			
Fluoranthene	3/19/21 17:00	5.58	10.4	"	10.4	ND	53.6	31.9-106			
Fluorene	3/19/21 17:00	5.48	10.4	"	10.4	ND	52.6	28.1-104			
Indeno (1,2,3-cd) pyrene	3/19/21 17:00	5.53	10.4	"	10.4	ND	53.1	29.6-105			
2-Methylnaphthalene	3/19/21 17:00	4.33	10.4	"	10.4	ND	41.6	18.5-106			
2-Methylphenol	3/19/21 17:00	4.28	10.4	"	10.4	ND	41.1	10-106			
3 & 4-Methylphenol	3/19/21 17:00	7.99	10.4	"	20.8	ND	38.4	10-139			
Naphthalene	3/19/21 17:00	4.25	10.4	"	10.4	ND	40.8	17-100			
Pentachlorophenol	3/19/21 17:00	5.42	10.4	"	10.4	ND	52.0	10-119			
Phenanthrene	3/19/21 17:00	5.42	10.4	"	10.4	ND	52.0	34.8-106			
Pyrene	3/19/21 17:00	4.71	10.4	"	10.4	ND	45.2	10-127			
2,4,6-Trichlorophenol	3/19/21 17:00	5.30	10.4	"	10.4	ND	50.9	26.7-102			
Surrogate: 2,4,6-Tribromophenol		*5.85*		*"*	*10.4*		*56.2*	*13.3-115*			
Surrogate: 2-Fluorobiphenyl		*2.46*		*"*	*5.21*		*47.2*	*14.7-104*			
Surrogate: 2-Fluorophenol		*2.86*		*"*	*10.4*		*27.5*	*10-100*			
Surrogate: Nitrobenzene-d5		*2.52*		*"*	*5.21*		*48.4*	*10-103*			
Surrogate: Phenol-d5		*1.91*		*"*	*10.4*		*18.3*	*10-105*			
Surrogate: Terphenyl-dl4		*2.34*		*"*	*5.21*		*45.0*	*10-110*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Low Level Analytes by GCMS-SW-846 Method 8270D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C17037 - EPA 3510C DCN 4000 Rev 12											
Blank (1C17037-BLK1)											
Pentachlorophenol	3/18/21 15:55	ND	1.00	ug/L							
Surrogate: 2,4,6-Tribromophenol		*6.03*		*"*	*10.0*		*60.3*	*16.2-100*			
Surrogate: 2-Fluorophenol		*6.62*		*"*	*10.0*		*66.2*	*12.7-100*			
Surrogate: Phenol-d5		*6.83*		*"*	*10.0*		*68.3*	*16.1-100*			
LCS (1C17037-BS1)											
Pentachlorophenol	3/18/21 16:31	4.94	1.00	ug/L	10.0		49.4	10-144			
Surrogate: 2,4,6-Tribromophenol		*6.30*		*"*	*10.0*		*63.0*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.70*		*"*	*10.0*		*57.0*	*12.7-100*			
Surrogate: Phenol-d5		*6.10*		*"*	*10.0*		*61.0*	*16.1-100*			
LCS Dup (1C17037-BSD1)											
Pentachlorophenol	3/19/21 4:28	5.34	1.00	ug/L	10.0		53.4	10-144	7.78	40	
Surrogate: 2,4,6-Tribromophenol		*6.70*		*"*	*10.0*		*67.0*	*16.2-100*			
Surrogate: 2-Fluorophenol		*5.48*		*"*	*10.0*		*54.8*	*12.7-100*			
Surrogate: Phenol-d5		*6.19*		*"*	*10.0*		*61.9*	*16.1-100*			
Duplicate (1C17037-DUP1)			**Source: 2103285-02**								
Pentachlorophenol	3/18/21 17:46	ND	1.00	ug/L		ND				45	
Surrogate: 2,4,6-Tribromophenol		*5.43*		*"*	*10.8*		*50.2*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.83*		*"*	*10.8*		*26.2*	*12.7-100*			
Surrogate: Phenol-d5		*1.79*		*"*	*10.8*		*16.6*	*16.1-100*			
Matrix Spike (1C17037-MS1)			**Source: 2103285-02**								
Pentachlorophenol	3/19/21 17:00	5.42	1.00	ug/L	10.4	ND	52.0	20.7-138			
Surrogate: 2,4,6-Tribromophenol		*5.85*		*"*	*10.4*		*56.2*	*16.2-100*			
Surrogate: 2-Fluorophenol		*2.86*		*"*	*10.4*		*27.5*	*12.7-100*			
Surrogate: Phenol-d5		*1.91*		*"*	*10.4*		*18.3*	*16.1-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16026 - EPA 5030B											
Blank (1C16026-BLK1)											
Benzene	3/11/21 12:16	ND	5.00	ug/L							
Ethylbenzene	3/11/21 12:16	ND	5.00	"							
Surrogate: Dibromofluoromethane		*58.3*		"	*50.0*		*117*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.3*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*50.7*		"	*50.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.4*		"	*50.0*		*103*	*70-130*			
Blank (1C16026-BLK2)											
Benzene	3/15/21 10:06	ND	5.00	ug/L							
Ethylbenzene	3/15/21 10:06	ND	5.00	"							
Surrogate: Dibromofluoromethane		*57.1*		"	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*55.4*		"	*50.0*		*111*	*70-130*			
Surrogate: Toluene-d8		*53.0*		"	*50.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*54.0*		"	*50.0*		*108*	*70-130*			
Blank (1C16026-BLK3)											
Benzene	3/16/21 10:34	ND	5.00	ug/L							
Ethylbenzene	3/16/21 10:34	ND	5.00	"							
Surrogate: Dibromofluoromethane		*57.4*		"	*50.0*		*115*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.2*		"	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*52.2*		"	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.0*		"	*50.0*		*106*	*70-130*			
LCS (1C16026-BS1)											
Benzene	3/11/21 12:43	23.8	5.00	ug/L	20.0		119	70.8-137			
Ethylbenzene	3/11/21 12:43	24.8	5.00	"	20.0		124	73.6-139			
Surrogate: Dibromofluoromethane		*56.9*		"	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*55.2*		"	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8		*51.8*		"	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.9*		"	*50.0*		*104*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16026 - EPA 5030B											
LCS (1C16026-BS2)											
Benzene	3/15/21 10:33	23.4	5.00	ug/L	20.0		117	70.8-137			
Ethylbenzene	3/15/21 10:33	24.8	5.00	"	20.0		124	73.6-139			
Surrogate: Dibromofluoromethane		*54.7*		"	*50.0*		*109*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.1*		"	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*53.4*		"	*50.0*		*107*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.4*		"	*50.0*		*107*	*70-130*			
LCS (1C16026-BS3)											
Benzene	3/16/21 11:05	24.2	5.00	ug/L	20.0		121	70.8-137			
Ethylbenzene	3/16/21 11:05	25.5	5.00	"	20.0		127	73.6-139			
Surrogate: Dibromofluoromethane		*53.3*		"	*50.0*		*107*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.2*		"	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*52.8*		"	*50.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.5*		"	*50.0*		*107*	*70-130*			
LCS Dup (1C16026-BSD1)											
Benzene	3/11/21 13:09	23.9	5.00	ug/L	20.0		120	70.8-137	0.503	30	
Ethylbenzene	3/11/21 13:09	25.3	5.00	"	20.0		126	73.6-139	1.80	30	
Surrogate: Dibromofluoromethane		*55.5*		"	*50.0*		*111*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.8*		"	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8		*52.1*		"	*50.0*		*104*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.6*		"	*50.0*		*105*	*70-130*			
LCS Dup (1C16026-BSD2)											
Benzene	3/15/21 11:00	21.9	5.00	ug/L	20.0		110	70.8-137	6.62	30	
Ethylbenzene	3/15/21 11:00	22.9	5.00	"	20.0		114	73.6-139	8.30	30	
Surrogate: Dibromofluoromethane		*55.2*		"	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*56.0*		"	*50.0*		*112*	*70-130*			
Surrogate: Toluene-d8		*52.6*		"	*50.0*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*55.2*		"	*50.0*		*110*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C16026 - EPA 5030B											
LCS Dup (1C16026-BSD3)											
Benzene	3/16/21 11:31	23.1	5.00	ug/L	20.0		116	70.8-137	4.48	30	
Ethylbenzene	3/16/21 11:31	24.7	5.00	"	20.0		123	73.6-139	3.35	30	
Surrogate: Dibromofluoromethane		*54.8*		"	*50.0*		*110*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.5*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*52.5*		"	*50.0*		*105*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*55.0*		"	*50.0*		*110*	*70-130*			
Matrix Spike (1C16026-MS1)			**Source: 2103211-02**								
Benzene	3/16/21 12:56	23.2	5.00	ug/L	20.0	ND	116	76.8-144			
Ethylbenzene	3/16/21 12:56	23.6	5.00	"	20.0	ND	118	72-147			
Surrogate: Dibromofluoromethane		*53.9*		"	*50.0*		*108*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.6*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*53.0*		"	*50.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.8*		"	*50.0*		*108*	*70-130*			
Matrix Spike Dup (1C16026-MSD1)			**Source: 2103211-02**								
Benzene	3/16/21 13:22	24.2	5.00	ug/L	20.0	ND	121	76.8-144	4.35	35	
Ethylbenzene	3/16/21 13:22	24.6	5.00	"	20.0	ND	123	72-147	4.19	35	
Surrogate: Dibromofluoromethane		*54.5*		"	*50.0*		*109*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*54.8*		"	*50.0*		*110*	*70-130*			
Surrogate: Toluene-d8		*53.0*		"	*50.0*		*106*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*55.2*		"	*50.0*		*110*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Certified Analyses Included in this Report

Analyte	Certification Code
8270 PCP by GC/MS in Water	
Pentachlorophenol	C01,C02
Benzo (a) pyrene	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: [none]
Project Manager: Ethan Allen

Reported:
03/26/2021 12:41

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2021*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2021*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2021*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2021*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi			*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: [none]	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/26/2021 12:41

Analyst Initials Key

FullName	Initials
Alyssa B Timbs	ABT
Cristina D Vargas	CDV
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Gayle M. Sparling	GMS
Kristy L. Pierce	KLP
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2103285

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

- x Normal
- __ Next Day*
- __ 2nd Day*
- __ Other*_____

*All rush order requests must be prior approved.

- __ Phone
- __ Mail
- __ Fax
- __ Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR

Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
B-128	3-15-21/9:30	W	9	G	X	X	X	X	X	X	X
B-60A	3-15-21/11:00	W	9	G	X	X	X	X	X	X	X
B-65	3-15-21/12:20	W	9	G	X	X	X	X	X	X	X
TBV#6669	3-15-21/9:30	W	2	G							X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 4/8 Cooler #_____ **Receipt Temp Corrected(°C)**

Date & Time _____ By: _____ Sample____ Blank X Cooler____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3 16 21	8:23
Received by	Sarah Tomek	Sarah Tomek	MM	3/16/21	0823
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:*

client cooler #1 0.6°c
client cooler #2 0.2°c

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

March 26, 2021

Ethan Allen

Work Order # : 2103339

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/18/2021 09:33. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-6	2103339-01	Water	03/17/2021 09:00	*Jeff Gonsoulin*	03/18/2021 09:33
Trip Blank TBV#6673	2103339-02	Water	03/17/2021 09:00	*Micro Methods*	03/18/2021 09:33

Sample Receipt Conditions

Date/Time Received: 3/18/2021 9:33:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/18/2021 9:47:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/26/2021 13:25

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

WO# 2103339-01 anions results reported to lowest reporting limits due to creosote in samples.DLW

Volatile Technician Comments - SAD:
Sample(s) analyzed with zero headspace. 8260D
pH of sample(s) is less than two in preserved vials. 8260D

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

1C22053-DUP1, 2103339-01[Mobile/RW-6]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Mobile/RW-6

2103339-01 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters										
Chloride	**76.0**	5.00	mg/L	10.0	1C19038	DLW	03/18/2021 22:21	03/18/2021 22:21	SM 4110B 2011	
Nitrate as N	ND	5.00	"	"	"	DLW	"	"	"	
Ammonia as N	**1.39**	0.21	"	1.0	1C23049	DLW	03/23/2021 10:00	03/23/2021 12:57	Lachat 10-107-06-1-I	
pH	**7.35**		pH Units	"	1C22053	SSK	03/22/2021 11:55	03/22/2021 11:55	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**544**		umhos/cm @25.0 C	"	1C26044	VEL	03/26/2021 08:30	03/26/2021 09:05	SM 2510 B-2011	
Volatile Organic Compounds by EPA Method 8260D										
Benzene	**78.2**	5.00	ug/L	1.0	1C23037	SAD	03/19/2021 08:55	03/19/2021 14:31	EPA 8260D	
Ethylbenzene	**2910**	2500	"	500.0	"	BSF	"	03/23/2021 17:40	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	53.8	*108 %*	*70-130*	"	BSF	"	*03/23/2021 14:08*	"	
1,2-Dichloroethane-d4	56.6	*113 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	48.3	*96.6 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	64.8	*130 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Trip Blank TBV#6673

2103339-02 (Water)

Analyte	Result	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D										
Benzene	ND	5.00	ug/L	1.0	1C23037	BSF	03/23/2021 08:55	03/23/2021 14:55	EPA 8260D	
Ethylbenzene	ND	5.00	"	"	"	BSF	"	"	"	

Surrogate		*% Rec*	*Rec Limits*	*Batch*		*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Notes*
Dibromofluoromethane	48.6	*97.2 %*	*70-130*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.7	*99.4 %*	*70-130*	"	BSF	"	"	"	
Toluene-d8	52.8	*106 %*	*70-130*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.4	*96.7 %*	*70-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C19038 - Default Prep GenChem											
Blank (1C19038-BLK1)											
Chloride	3/18/21 8:42	ND	0.500	mg/L							
Nitrate as N	3/18/21 8:42	ND	0.500	"							
LCS (1C19038-BS1)											
Chloride	3/18/21 9:46	2.89	0.500	mg/L	3.00		96.5	86.3-109			
Nitrate as N	3/18/21 9:46	2.12	0.500	"	2.26		93.7	81.7-111			
LCS Dup (1C19038-BSD1)											
Chloride	3/18/21 10:18	2.92	0.500	mg/L	3.00		97.2	86.3-109	0.792	20	
Nitrate as N	3/18/21 10:18	2.13	0.500	"	2.26		94.2	81.7-111	0.518	20	
Duplicate (1C19038-DUP1)			**Source: 2103355-06**								
Chloride	3/18/21 18:38	15.5	0.500	mg/L		15.4			0.976	20	
Nitrate as N	3/18/21 18:38	1.78	0.500	"		1.79			0.896	20	
Matrix Spike (1C19038-MS1)			**Source: 2103355-06**								
Chloride	3/18/21 19:10	62.6	1.00	mg/L	50.0	15.4	94.4	76.2-122			
Nitrate as N	3/18/21 19:10	11.1	1.00	"	11.3	1.79	82.5	60.8-130			
Matrix Spike Dup (1C19038-MSD1)			**Source: 2103355-06**								
Chloride	3/18/21 19:41	63.0	1.00	mg/L	50.0	15.4	95.2	76.2-122	0.561	20	
Nitrate as N	3/18/21 19:41	11.3	1.00	"	11.3	1.79	84.3	60.8-130	1.85	20	
Batch 1C22053 - Default Prep GenChem											
Duplicate (1C22053-DUP1)			**Source: 2103339-01**								
pH	3/22/21 11:57	7.38		pH Units		7.35			0.407	5	HT-02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Classical Chemistry Parameters - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C23049 - Default Prep GenChem											
Blank (1C23049-BLK1)											
Ammonia as N	3/23/21 15:19	ND	0.21	mg/L							
LCS (1C23049-BS1)											
Ammonia as N	3/23/21 15:19	5.14	0.21	mg/L	5.00		103	90-110			
LCS Dup (1C23049-BSD1)											
Ammonia as N	3/23/21 15:19	5.20	0.21	mg/L	5.00		104	90-110	1.16	10	
Matrix Spike (1C23049-MS1)			**Source: 2103349-02**								
Ammonia as N	3/23/21 15:19	5.50	0.21	mg/L	5.00	0.67	96.7	90-110			
Matrix Spike Dup (1C23049-MSD1)			**Source: 2103349-02**								
Ammonia as N	3/23/21 15:19	5.74	0.21	mg/L	5.00	0.67	102	90-110	4.27	10	
Batch 1C26044 - Default Prep GenChem											
LCS (1C26044-BS1)											
Specific Conductance (EC)	3/26/21 9:05	1430		uS/cm	1410		101	90-110			
Duplicate (1C26044-DUP1)			**Source: 2103430-03**								
Specific Conductance (EC)	3/26/21 9:05	852		umhos/cm @25.0 C		854			0.234	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C23037 - EPA 5030B											
Blank (1C23037-BLK1)											
Benzene	3/23/21 9:24	ND	5.00	ug/L							
Ethylbenzene	3/23/21 9:24	ND	5.00	"							
Surrogate: Dibromofluoromethane		*50.3*		"	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.4*		"	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8		*50.4*		"	*50.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.4*		"	*50.0*		*96.8*	*70-130*			
Blank (1C23037-BLK2)											
Benzene	3/24/21 12:31	ND	5.00	ug/L							
Ethylbenzene	3/24/21 12:31	ND	5.00	"							
Surrogate: Dibromofluoromethane		*49.1*		"	*50.0*		*98.2*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.8*		"	*50.0*		*102*	*70-130*			
Surrogate: Toluene-d8		*49.7*		"	*50.0*		*99.5*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*48.9*		"	*50.0*		*97.8*	*70-130*			
Blank (1C23037-BLK3)											
Benzene	3/19/21 9:49	ND	5.00	ug/L							
Surrogate: Dibromofluoromethane		*54.1*		"	*50.0*		*108*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.5*		"	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8		*50.8*		"	*50.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.5*		"	*50.0*		*99.1*	*70-130*			
LCS (1C23037-BS1)											
Benzene	3/23/21 9:48	18.4	5.00	ug/L	20.0		91.8	70.8-137			
Ethylbenzene	3/23/21 9:48	17.7	5.00	"	20.0		88.7	73.6-139			
Surrogate: Dibromofluoromethane		*52.5*		"	*50.0*		*105*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.9*		"	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8		*50.1*		"	*50.0*		*100*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*53.2*		"	*50.0*		*106*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C23037 - EPA 5030B											
LCS (1C23037-BS2)											
Benzene	3/24/21 12:55	20.6	5.00	ug/L	20.0		103	70.8-137			
Ethylbenzene	3/24/21 12:55	19.3	5.00	"	20.0		96.3	73.6-139			
Surrogate: Dibromofluoromethane		*50.4*		"	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.5*		"	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8		*46.7*		"	*50.0*		*93.4*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*51.6*		"	*50.0*		*103*	*70-130*			
LCS (1C23037-BS3)											
Benzene	3/19/21 10:16	19.3	5.00	ug/L	20.0		96.4	70.8-137			
Surrogate: Dibromofluoromethane		*52.0*		"	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*51.3*		"	*50.0*		*103*	*70-130*			
Surrogate: Toluene-d8		*50.3*		"	*50.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.7*		"	*50.0*		*99.5*	*70-130*			
LCS Dup (1C23037-BSD1)											
Benzene	3/23/21 10:11	18.6	5.00	ug/L	20.0		92.9	70.8-137	1.25	30	
Ethylbenzene	3/23/21 10:11	18.3	5.00	"	20.0		91.3	73.6-139	2.95	30	
Surrogate: Dibromofluoromethane		*52.0*		"	*50.0*		*104*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.6*		"	*50.0*		*105*	*70-130*			
Surrogate: Toluene-d8		*46.6*		"	*50.0*		*93.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*55.8*		"	*50.0*		*112*	*70-130*			
LCS Dup (1C23037-BSD2)											
Benzene	3/24/21 13:55	17.7	5.00	ug/L	20.0		88.6	70.8-137	15.0	30	
Ethylbenzene	3/24/21 13:55	16.9	5.00	"	20.0		84.7	73.6-139	12.8	30	
Surrogate: Dibromofluoromethane		*50.6*		"	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*52.1*		"	*50.0*		*104*	*70-130*			
Surrogate: Toluene-d8		*48.6*		"	*50.0*		*97.1*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*50.4*		"	*50.0*		*101*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Analyzed	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1C23037 - EPA 5030B											
LCS Dup (1C23037-BSD3)											
Benzene	3/19/21 10:43	17.9	5.00	ug/L	20.0		89.4	70.8-137	7.54	30	
Surrogate: Dibromofluoromethane		*51.3*		"	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.5*		"	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8		*49.3*		"	*50.0*		*98.6*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.3*		"	*50.0*		*98.6*	*70-130*			
Duplicate (1C23037-DUP1)			**Source: 2103339-01**								
Benzene	3/19/21 14:58	78.9	5.00	ug/L		78.2			0.892	35	
Surrogate: Dibromofluoromethane		*55.6*		"	*50.0*		*111*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*50.7*		"	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8		*50.9*		"	*50.0*		*102*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*49.7*		"	*50.0*		*99.4*	*70-130*			
Matrix Spike (1C23037-MS1)			**Source: 2103380-01**								
Benzene	3/23/21 16:28	19.9	5.00	ug/L	20.0	ND	99.5	76.8-144			
Ethylbenzene	3/23/21 16:28	24.0	5.00	"	20.0	ND	120	72-147			
Surrogate: Dibromofluoromethane		*51.7*		"	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4		*53.4*		"	*50.0*		*107*	*70-130*			
Surrogate: Toluene-d8		*48.0*		"	*50.0*		*96.0*	*70-130*			
Surrogate: 4-Bromofluorobenzene		*52.7*		"	*50.0*		*105*	*70-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 03/26/2021 13:25

Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
03/26/2021 13:25

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2021*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2021*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2021*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2021*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2021*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2021*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2021*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/04/2020*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2021*
C12			
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*03/24/2021*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*03/24/2021*
Not Certi			*06/30/2020*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of analyte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	03/26/2021 13:25

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Dortha L. Wells	DLW
Swan A Allen-Davis	SAD
Sarah E. Tomek	SET
Stella S Kleist	SSK
Teresa Meins	TKM
Tina Tomek	TPT
Veronica List	VEL

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2103339

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

- ×Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR SAMPLING

Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDES	NITRATES	AMMONIA	VOA
Preservative:									
RW-6	3-17-21/9:00	W	4	G	X	X	X	X	X
TBV#6673	3-17-21/9:00	W	2	G					X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 4 Cooler # Client #1 **Receipt Temp Corrected(°C)** 1.3°C

Date & Time _____ By: _____ Sample____ Blank X Cooler____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3.18.21	9:33
Received by	Sarah Tonnel		MM	3/18/21	0933
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 19, 2023

Ethan Allen

Work Order # : 2303327

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/21/2023 08:07. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-1	2303327-01	Water	03/20/2023 15:15	*Jeff Gonsoulin*	03/21/2023 08:07
Mobile/RW-2	2303327-02	Water	03/20/2023 15:22	*Jeff Gonsoulin*	03/21/2023 08:07
Mobile/RC-1	2303327-03	Water	03/20/2023 15:35	*Jeff Gonsoulin*	03/21/2023 08:07
Mobile/RC-1A	2303327-04	Water	03/20/2023 16:35	*Jeff Gonsoulin*	03/21/2023 08:07
Mobile/E-2	2303327-05	Water	03/20/2023 13:34	*Jeff Gonsoulin*	03/21/2023 08:07
Mobile/B-25	2303327-06	Water	03/20/2023 12:45	*Jeff Gonsoulin*	03/21/2023 08:07
Mobile/B-24	2303327-07	Water	03/20/2023 15:55	*Jeff Gonsoulin*	03/21/2023 08:07
Trip Blank TBV#7101	2303327-08	Water	03/20/2023 12:45	*Micro Methods*	03/21/2023 08:07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Sample Receipt Conditions

Date/Time Received: 3/21/2023 8:07:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/21/2023 8:19:00AM
Cooler ID: #1103

Shipped by: Client Delivery
Submitted by: Kaleb Atkins
Logged by: Sarah E. Tomek
Receipt Temperature: 0.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	No
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	No
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	Yes
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	Yes
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Cooler ID: #1146

Receipt Temperature: 0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	No
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	No
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	Yes
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	Yes
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Cooler ID: client cooler

Receipt Temperature: -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	No
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	No
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	Yes
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	Yes
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:39

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:39

Volatile Organic Compounds-EPA 8260D

Qualifiers:

L3 LCS/LCSD Precision Limit exceeded.

Benzene, Ethylbenzene

3C28023-BSD1

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2-Methylphenol, 4-Chloro-3-methylphenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate, Pentachlorophenol

2303327-03[Mobile/RC-1], 3C24011-BLK1, 2303327-01[Mobile/RW-1], 2303327-05[Mobile/E-2], 2303327-06[Mobile/B-25], 2303327-07[Mobile/B-24], 3C24011-DUP1, 3C27020-DUP1, 2303327-04[Mobile/RC-1A]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate, Indeno (1,2,3-cd) pyrene, Phenol-d5

2303327-03[Mobile/RC-1], 2303327-04[Mobile/RC-1A], 3C24011-BS1, 3C27020-BLK1, 3C27020-BS1, 3C27020-BSD1, 3C27020-DUP1, 3C27020-MS1, 3C24011-BSD1, 3C24011-MS1, 3C24010-BS1, 3C24010-BSD1, 3C24011-BLK1

DL-6 Dilution required. Lowest achievable MRL due to matrix interterence.

2,4-Dimethylphenol, 4-Chloro-3-methylphenol

2303327-04[Mobile/RC-1A]

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2-Methylnaphthalene, 2-Methylphenol, Acenaphthylene, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

2303327-04[Mobile/RC-1A], 2303327-03[Mobile/RC-1]

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene

3C24010-MS1, 3C27020-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Fluoranthene, Phenanthrene

3C24010-DUP1, 3C24011-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:39

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

Nitrobenzene-d5

2303327-04[Mobile/RC-1A]

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2-Fluorophenol

2303327-02[Mobile/RW-2]

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2303327-01[Mobile/RW-1], 2303327-02[Mobile/RW-2], 2303327-03[Mobile/RC-1], 2303327-04[Mobile/RC-1A], 2303327-05[Mobile/E-2], 2303327-06[Mobile/B-25], 2303327-07[Mobile/B-24], 3C22049-DUP1, 3C22049-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RW-1

2303327-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
2-Methylnaphthalene	**0.10**	0.05	0.05	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	03/31/2023 06:46	EPA 8270D	
Acenaphthylene	**0.07**	0.01	0.06	"	"	"	CRLV	"	"	"	
Fluorene	**0.98**	0.02	0.12	"	"	"	CRLV	"	"	"	
Anthracene	**0.20**	0.02	0.06	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.28**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.37**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.85**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.45**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.34**	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0825	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.134	*65.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.103	*50.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.47**	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:21	Lachat 10-107-06-1-I	
Chloride	**14.4**	0.04	5.00	"	"	3C21070	DLW	03/21/2023 11:30	03/21/2023 16:23	ASTM D 512-12	
pH	**7.35**			pH Units	"	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**249**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C21064	ASC	03/21/2023 14:51	03/21/2023 15:09	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00311**	0.00078	0.00200	mg/L	1.0	3C22033	GWG	03/22/2023 09:30	03/22/2023 15:32	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.0133**	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RW-1

2303327-01 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**2.77**	0.09	1.12	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/02/2023 21:11	EPA 8270D	
Benzo (k) fluoranthene	**1.78**	0.12	0.88	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.12	"	"	"	CRLV	"	"	"	CC-01
Carbazole	ND	2.72	8.15	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.57	1.71	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.24	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.09	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.49	4.48	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.59	1.76	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**1.61**	0.03	1.55	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.17	3.51	"	"	"	CRLV	"	"	"	
Naphthalene	**1.73**	0.09	1.03	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.04	1.04	"	"	"	CRLV	"	"	"	
Phenanthrene	**1.37**	0.09	1.24	"	"	"	CRLV	"	"	"	
Pyrene	**1.61**	0.16	0.60	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.37	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.33	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	2.61	*25.2 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.80	*34.8 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	1.22	*11.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.90	*56.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	5.42	*52.3 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	2.03	*39.2 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 12:21	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.6	*95.2 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.9	*91.8 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	56.4	*113 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	43.2	*86.3 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RW-2

2303327-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Indeno (1,2,3-cd) pyrene	**0.65**	0.03	0.18	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	03/31/2023 07:28	EPA 8270D	
Dibenz (a,h) anthracene	**0.26**	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0722	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.144	*70.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.175	*85.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.52**	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:22	Lachat 10-107-06-1-I	
Chloride	**39.9**	0.04	5.00	"	"	3C21070	DLW	03/21/2023 11:30	03/21/2023 16:23	ASTM D 512-12	
pH	**6.05**			pH Units	"	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C21064	ASC	03/21/2023 14:51	03/21/2023 15:09	HACH 10206	
Specific Conductance (EC)	**268**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00357**	0.00078	0.00200	mg/L	1.0	3C22033	GWG	03/22/2023 09:30	03/22/2023 15:37	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00252**	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RW-2

2303327-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**94.9**	0.90	11.0	ug/L	10.0	3C24011	CRLV	03/24/2023 10:54	04/04/2023 22:39	EPA 8270D	
Acenaphthylene	**2.30**	0.09	1.18	"	1.0	"	CRLV	"	04/05/2023 02:48	"	
Anthracene	**28.6**	1.01	13.2	"	10.0	"	CRLV	"	04/04/2023 22:39	"	
Benzo (a) anthracene	**43.8**	0.88	9.39	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**39.0**	1.44	14.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**51.5**	1.22	8.67	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**24.0**	1.23	12.8	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	"	1.0	"	CRLV	"	04/05/2023 02:48	"	
Carbazole	**23.0**	20.4	20.4	"	10.0	"	CRLV	"	04/04/2023 22:39	"	
4-Chloro-3-methylphenol	ND	0.56	1.68	"	1.0	"	CRLV	"	04/05/2023 02:48	"	
Chrysene	**43.1**	0.80	9.08	"	10.0	"	CRLV	"	04/04/2023 22:39	"	
Dibenzofuran	**68.3**	4.07	12.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.07	"	1.0	"	CRLV	"	04/05/2023 02:48	"	
2,4-Dinitrophenol	ND	1.47	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	
Fluoranthene	**152**	0.26	15.3	"	10.0	"	CRLV	"	04/04/2023 22:39	"	
Fluorene	**94.4**	1.09	12.1	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**49.5**	0.51	13.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.27	"	1.0	"	CRLV	"	04/05/2023 02:48	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	"	"	
Naphthalene	**197**	0.86	10.1	"	10.0	"	CRLV	"	04/04/2023 22:39	"	
Pentachlorophenol	ND	1.02	1.02	"	1.0	"	CRLV	"	04/05/2023 02:48	"	
Phenanthrene	**398**	9.29	122	"	100.0	"	CRLV	"	04/05/2023 05:46	"	
Pyrene	**102**	1.61	5.92	"	10.0	"	CRLV	"	04/04/2023 22:39	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	1.0	"	CRLV	"	04/05/2023 02:48	"	
1-Methylnaphthalene	**29.2**	0.51	13.1	"	10.0	"	CRLV	"	04/04/2023 22:39	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	5.90	*57.8 %*	*19.2-121*	"	CRLV	"	*04/05/2023 02:48*	"	
2-Fluorobiphenyl	2.77	*54.2 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	0.122	*1.20 %*	*10-100*	"	CRLV	"	"	"	*SR05*
Nitrobenzene-d5	1.91	*37.4 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	1.22	*12.0 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.51	*68.8 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RW-2

2303327-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 12:44	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.2	*94.4 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.0	*89.9 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	54.0	*108 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.0	*90.1 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RC-1

2303327-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**8.58**	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:23	Lachat 10-107-06-1-I	
Chloride	**258**	0.41	50.0	"	10.0	3C21070	DLW	03/21/2023 11:30	03/21/2023 16:23	ASTM D 512-12	
pH	**6.72**			pH Units	1.0	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**1370**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Nitrate as N	**0.62**	0.10	0.50	mg/L	"	3C21064	ASC	03/21/2023 14:51	03/21/2023 15:09	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C22033	GWG	03/22/2023 09:30	03/22/2023 15:41	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RC-1

2303327-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**191**	11.5	102	ug/L	10.0	3C27020	CRLV	03/27/2023 08:25	04/12/2023 16:09	EPA 8270D	
Acenaphthylene	**5.02**	1.09	10.2	"	1.0	"	CRLV	"	04/17/2023 15:00	"	J
Anthracene	**48.3**	1.01	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**38.0**	0.89	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**29.2**	1.05	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**11.4**	1.03	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**15.0**	1.00	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"	"	"	CRLV	"	"	"	CC-01
Carbazole	**230**	9.15	102	"	10.0	"	CRLV	"	04/12/2023 16:09	"	
4-Chloro-3-methylphenol	ND	1.06	10.2	"	1.0	"	CRLV	"	04/17/2023 15:00	"	
Chrysene	**39.6**	0.94	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**2.70**	0.68	10.2	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**110**	10.6	102	"	10.0	"	CRLV	"	04/12/2023 16:09	"	
2,4-Dimethylphenol	**305**	8.58	102	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.11	10.2	"	1.0	"	CRLV	"	04/17/2023 15:00	"	
Di-n-octyl phthalate	ND	1.38	10.2	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**270**	9.53	102	"	10.0	"	CRLV	"	04/12/2023 16:09	"	
Fluorene	**155**	10.3	102	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**7.34**	0.90	10.2	"	1.0	"	CRLV	"	04/17/2023 15:00	"	J
2-Methylnaphthalene	**236**	11.4	102	"	10.0	"	CRLV	"	04/12/2023 16:09	"	
2-Methylphenol	**4.26**	0.90	10.2	"	1.0	"	CRLV	"	04/17/2023 15:00	"	CC-01, J
3 & 4-Methylphenol	**11.1**	0.89	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**4980**	111	1020	"	100.0	"	CRLV	"	04/10/2023 17:12	"	
Pentachlorophenol	ND	2.78	10.2	"	1.0	"	CRLV	"	04/17/2023 15:00	"	
Phenanthrene	**273**	9.47	102	"	10.0	"	CRLV	"	04/12/2023 16:09	"	
Pyrene	**129**	11.1	102	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.63	10.2	"	1.0	"	CRLV	"	04/17/2023 15:00	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	68.6	*67.2 %*	*15.8-107*	"	CRLV	"	*04/12/2023 16:09*	"	*CC-03*
2-Fluorobiphenyl	48.0	*94.0 %*	*14.6-104*	"	CRLV	"	*04/10/2023 17:12*	"	
2-Fluorophenol	24.3	*23.8 %*	*10-100*	"	CRLV	"	*04/17/2023 15:00*	"	
Nitrobenzene-d5	8.16	*16.0 %*	*10-108*	"	CRLV	"	*04/10/2023 17:12*	"	
Phenol-d5	17.7	*17.3 %*	*10-100*	"	CRLV	"	*04/17/2023 15:00*	"	
Terphenyl-dl4	44.9	*88.0 %*	*10-100*	"	CRLV	"	*04/10/2023 17:12*	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RC-1

2303327-03 (Water)

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	**8.48**	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 13:08	EPA 8260D	
Ethylbenzene	**31.4**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.1	*92.2 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.7	*89.3 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.7	*107 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.2	*94.5 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RC-1A

2303327-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.37**	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:24	Lachat 10-107-06-1-I	
Chloride	**133**	0.08	10.0	"	2.0	3C21070	DLW	03/21/2023 11:30	03/21/2023 16:23	ASTM D 512-12	
pH	**6.34**			pH Units	1.0	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**746**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C21064	ASC	03/21/2023 14:51	03/21/2023 15:09	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C22033	GWG	03/22/2023 09:30	03/22/2023 15:45	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RC-1A

2303327-04 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**201**	11.7	104	ug/L	10.0	3C27020	CRLV	03/27/2023 08:25	04/11/2023 05:42	EPA 8270D	
Acenaphthylene	ND	1.11	10.4	"	1.0	"	CRLV	"	04/12/2023 15:00	"	
Anthracene	ND	1.02	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.90	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.07	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.05	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.01	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.18	10.4	"	"	"	CRLV	"	"	"	
Carbazole	**426**	9.30	104	"	10.0	"	CRLV	"	04/11/2023 05:42	"	
4-Chloro-3-methylphenol	ND	10.8	104	"	"	"	CRLV	"	"	"	DL-6
Chrysene	ND	0.96	10.4	"	1.0	"	CRLV	"	04/12/2023 15:00	"	
Dibenz (a,h) anthracene	ND	0.69	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	**73.4**	1.08	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	8.72	104	"	10.0	"	CRLV	"	04/11/2023 05:42	"	DL-6
2,4-Dinitrophenol	ND	3.16	10.4	"	1.0	"	CRLV	"	04/12/2023 15:00	"	
Di-n-octyl phthalate	ND	1.40	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.97	10.4	"	"	"	CRLV	"	"	"	
Fluorene	**95.7**	1.05	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**31.2**	11.6	104	"	10.0	"	CRLV	"	04/11/2023 05:42	"	J
2-Methylphenol	ND	0.91	10.4	"	1.0	"	CRLV	"	04/12/2023 15:00	"	
3 & 4-Methylphenol	ND	0.90	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	**1690**	11.3	104	"	10.0	"	CRLV	"	04/11/2023 05:42	"	
Pentachlorophenol	ND	2.82	10.4	"	1.0	"	CRLV	"	04/12/2023 15:00	"	CC-01
Phenanthrene	**47.4**	0.96	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.13	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.67	10.4	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	73.9	*71.3 %*	*15.8-107*	"	CRLV	"	*04/11/2023 05:42*	"	*CC-03*
2-Fluorobiphenyl	23.4	*45.2 %*	*14.6-104*	"	CRLV	"	"	"	
2-Fluorophenol	30.2	*29.2 %*	*10-100*	"	CRLV	"	*04/12/2023 15:00*	"	
Nitrobenzene-d5	0.622	*1.20 %*	*10-108*	"	CRLV	"	*04/11/2023 05:42*	"	*SR01*
Phenol-d5	22.6	*21.8 %*	*10-100*	"	CRLV	"	*04/12/2023 15:00*	"	
Terphenyl-dl4	22.6	*43.6 %*	*10-100*	"	CRLV	"	*04/11/2023 05:42*	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/RC-1A

2303327-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**6.15**	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 13:31	EPA 8260D	
Ethylbenzene	**28.7**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.9	*93.8 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.8	*93.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	54.8	*110 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.4	*94.8 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/E-2

2303327-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	03/31/2023 22:48	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.35**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.14**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.12**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.06**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.09**	0.02	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.07**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.72**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.53**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.52**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.36**	0.02	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0707	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.121	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.101	*50.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	**8.48**	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:25	Lachat 10-107-06-1-I	
Chloride	**89.3**	0.04	5.00	"	"	3C21070	DLW	03/21/2023 11:30	03/21/2023 16:23	ASTM D 512-12	
pH	**6.73**			pH Units	"	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C21064	ASC	03/21/2023 14:51	03/21/2023 15:09	HACH 10206	
Specific Conductance (EC)	**1070**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C22033	GWG	03/22/2023 09:30	03/22/2023 15:50	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/E-2

2303327-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.36	1.10	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/02/2023 21:47	EPA 8270D	CC-01
Carbazole	ND	2.66	7.98	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.35	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.46	4.39	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.44	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.30	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	2.79	*27.5 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.44	*48.0 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	4.15	*40.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.42	*67.4 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	3.80	*37.4 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.89	*76.6 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 13:55	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.7	*93.4 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.8	*91.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.3	*107 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.8	*91.7 %*	*76.1-131*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/B-25

2303327-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	03/31/2023 23:30	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.09**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.35**	0.03	0.06	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.05**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.53**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.14**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.39**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.29**	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0812	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.122	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.0914	*45.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:27	Lachat 10-107-06-1-I	
Chloride	**443**	0.41	50.0	"	10.0	3C21070	DLW	03/21/2023 11:30	03/21/2023 16:23	ASTM D 512-12	
pH	**5.66**			pH Units	1.0	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**1640**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Nitrate as N	**0.51**	0.10	0.50	mg/L	"	3C21064	ASC	03/21/2023 14:51	03/21/2023 15:09	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C22033	GWG	03/22/2023 09:30	03/22/2023 16:03	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/B-25

2303327-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.36	1.09	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/02/2023 22:58	EPA 8270D	CC-01
Carbazole	ND	2.65	7.94	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.55	1.67	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.40	1.21	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.35	1.06	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.45	4.36	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.57	1.72	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.42	1.25	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.14	3.42	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.01	1.01	"	"	"	CRLV	"	"	"	
Pyrene	**0.80**	0.16	0.59	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.44	1.33	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.29	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	2.53	*25.0 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.33	*46.2 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	4.80	*47.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.04	*80.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	4.49	*44.5 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.49	*69.2 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 14:18	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.3	*92.6 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.9	*91.9 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.4	*107 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.7	*91.4 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/B-24

2303327-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 00:12	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.09**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.06**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.05**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.67**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.21**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.46**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.41**	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**0.16**	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0609	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.102	*50.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.0914	*45.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:28	Lachat 10-107-06-1-I	
Chloride	**56.4**	0.04	5.00	"	"	3C21070	DLW	03/21/2023 11:30	03/21/2023 16:23	ASTM D 512-12	
pH	**5.40**			pH Units	"	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Nitrate as N	**2.68**	0.10	0.50	mg/L	"	3C21064	ASC	03/21/2023 14:51	03/21/2023 15:09	HACH 10206	
Specific Conductance (EC)	**364**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C22033	GWG	03/22/2023 09:30	03/22/2023 16:07	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Mobile/B-24

2303327-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/02/2023 23:33	EPA 8270D	CC-01
Carbazole	ND	2.69	8.06	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.56	1.69	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.23	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.08	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.48	4.43	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.74	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.16	3.48	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.03	1.03	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.31	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	3.05	*29.7 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.54	*49.6 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	5.31	*51.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.11	*80.2 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	5.06	*49.3 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	5.06	*98.6 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 14:42	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.4	*92.8 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.9	*89.9 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.9	*108 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.4	*90.8 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Trip Blank TBV#7101

2303327-08 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 15:05	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.4	*90.8 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.7	*89.4 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.2	*106 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.4	*90.7 %*	*76.1-131*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24010-BLK1)											
Naphthalene	ND	0.02	0.15	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.110*			"	*0.200*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24010-BS1)											
Naphthalene	0.22	0.02	0.15	ug/L	0.200		110	10-145			
2-Methylnaphthalene	0.14	0.05	0.05	"	0.200		70.0	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.13	0.02	0.05	"	0.200		65.0	10-143			
Fluorene	0.18	0.02	0.12	"	0.200		90.0	10-150			
Phenanthrene	0.25	0.02	0.06	"	0.200		125	10-151			
Anthracene	0.15	0.02	0.06	"	0.200		75.0	10-130			
Fluoranthene	0.24	0.03	0.06	"	0.200		120	10-155			
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148			
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141			
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150			
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160			
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159			
Benzo (a) pyrene	0.19	0.02	0.06	"	0.200		95.0	10-177			
Indeno (1,2,3-cd) pyrene	0.26	0.02	0.17	"	0.200		130	10.7-171			CC-03
Dibenz (a,h) anthracene	0.18	0.04	0.16	"	0.200		90.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.130*			"	*0.200*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24010-BSD1)											
Naphthalene	0.23	0.02	0.15	ug/L	0.200		115	10-145	4.44	40	
2-Methylnaphthalene	0.15	0.05	0.05	"	0.200		75.0	50-150	6.90	40	
Acenaphthylene	0.15	0.01	0.06	"	0.200		75.0	10-147	6.90	40	
Acenaphthene	0.16	0.02	0.05	"	0.200		80.0	10-143	20.7	40	
Fluorene	0.20	0.02	0.12	"	0.200		100	10-150	10.5	40	
Phenanthrene	0.30	0.02	0.06	"	0.200		150	10-151	18.2	40	
Anthracene	0.16	0.02	0.06	"	0.200		80.0	10-130	6.45	40	
Fluoranthene	0.28	0.03	0.06	"	0.200		140	10-155	15.4	40	
Pyrene	0.18	0.02	0.05	"	0.200		90.0	10-148	5.41	40	
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141	0.00	40	
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150	0.00	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	0.00	40	
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159	0.00	40	
Benzo (a) pyrene	0.18	0.02	0.06	"	0.200		90.0	10-177	5.41	40	
Indeno (1,2,3-cd) pyrene	0.24	0.02	0.17	"	0.200		120	10.7-171	8.00	40	CC-03
Dibenz (a,h) anthracene	0.17	0.04	0.16	"	0.200		85.0	16-164	5.71	40	
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.120*			"	*0.200*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24010-DUP1)			**Source: 2303327-02**								
Naphthalene	446	22.5	155	ug/L		392			12.9	45	
2-Methylnaphthalene	49.7	5.18	5.18	"		47.4			4.77	45	
Acenaphthylene	1.24	0.12	0.62	"		1.34			7.48	45	
Acenaphthene	218	22.5	51.8	"		216			0.517	45	
Fluorene	96.4	1.74	12.4	"		95.9			0.517	45	
Phenanthrene	383	15.9	62.2	"		423			9.74	45	
Anthracene	31.1	1.59	6.22	"		29.9			3.91	45	
Fluoranthene	99.5	2.66	6.22	"		237			81.8	45	P3
Pyrene	46.6	1.74	5.18	"		52.6			12.0	45	
Benzo (a) anthracene	7.05	0.26	0.62	"		16.5			80.3	45	P3
Chrysene	5.70	0.31	0.52	"		9.79			52.9	45	P3
Benzo (b) fluoranthene	3.83	0.27	0.52	"		13.4			111	45	P3
Benzo (k) fluoranthene	0.81	0.03	0.05	"		1.34			49.5	45	P3
Benzo (a) pyrene	1.55	0.22	0.62	"		2.58			49.5	45	P3
Indeno (1,2,3-cd) pyrene	0.41	0.03	0.18	"		0.65			44.2	45	
Dibenz (a,h) anthracene	0.17	0.04	0.17	"		0.26			43.4	45	
Surrogate: 2-Fluorobiphenyl	*0.0725*			"	*0.207*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.135*			"	*0.207*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.207*		*75.0*	*11.3-148*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24010-MS1)		**Source: 2303327-02**									
Naphthalene	361	22.4	155	ug/L	0.206	392	NR	10-182			M5
2-Methylnaphthalene	43.3	5.15	5.15	"	0.206	47.4	NR	0-200			M5
Acenaphthylene	1.24	0.12	0.62	"	0.206	1.34	NR	10-200			M5
Acenaphthene	186	22.4	51.5	"	0.206	216	NR	10-200			M5
Fluorene	155	17.3	124	"	0.206	95.9	NR	10-200			M5
Phenanthrene	330	15.8	61.9	"	0.206	423	NR	46.3-156			M5
Anthracene	61.9	15.8	61.9	"	0.206	29.9	NR	12.9-149			M5
Fluoranthene	186	26.5	61.9	"	0.206	237	NR	10-200			M5
Pyrene	82.5	17.3	51.5	"	0.206	52.6	NR	10-191			M5
Benzo (a) anthracene	7.94	0.25	0.62	"	0.206	16.5	NR	19.3-191			M5
Chrysene	6.39	0.31	0.52	"	0.206	9.79	NR	16.5-166			M5
Benzo (b) fluoranthene	4.23	0.26	0.52	"	0.206	13.4	NR	17.3-163			M5
Benzo (k) fluoranthene	0.95	0.03	0.05	"	0.206	1.34	NR	23.7-152			M5
Benzo (a) pyrene	1.96	0.22	0.62	"	0.206	2.58	NR	10-200			M5
Indeno (1,2,3-cd) pyrene	0.49	0.03	0.18	"	0.206	0.65	NR	10-189			M5
Dibenz (a,h) anthracene	0.25	0.04	0.16	"	0.206	0.26	NR	51.1-147			M5
Surrogate: 2-Fluorobiphenyl	*0.0722*			"	*0.206*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.113*			"	*0.206*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.206*		*75.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:39

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C21064 - Default Prep GenChem											
Duplicate (3C21064-DUP1)			**Source: 2303327-07**								
Nitrate as N	2.61	0.10	0.50	mg/L		2.68			2.65	20	
Matrix Spike (3C21064-MS1)			**Source: 2303327-07**								
Nitrate as N	6.71	0.10	0.50	mg/L	4.00	2.68	101	90-110			
Matrix Spike Dup (3C21064-MSD1)			**Source: 2303327-07**								
Nitrate as N	6.82	0.10	0.50	mg/L	4.00	2.68	104	90-110	1.63	20	
Batch 3C21070 - Default Prep GenChem											
Blank (3C21070-BLK1)											
Chloride	ND	0.04	5.00	mg/L							
LCS (3C21070-BS1)											
Chloride	22.3	0.04	5.00	mg/L	25.0		89.2	85-115			
LCS Dup (3C21070-BSD1)											
Chloride	22.3	0.04	5.00	mg/L	25.0		89.2	85-115	0.00	30	
Duplicate (3C21070-DUP1)			**Source: 2303327-01**								
Chloride	13.9	0.04	5.00	mg/L		14.4			3.53	20	
Matrix Spike (3C21070-MS1)			**Source: 2303327-01**								
Chloride	26.1	0.04	5.00	mg/L	10.0	14.4	117	70-130			
Matrix Spike Dup (3C21070-MSD1)			**Source: 2303327-01**								
Chloride	26.5	0.04	5.00	mg/L	10.0	14.4	121	70-130	1.52	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C22037 - Default Prep GenChem											
Blank (3C22037-BLK1)											
Specific Conductance (EC)	1			umhos/cm @25.0 C							
LCS (3C22037-BS1)											
Specific Conductance (EC)	1410			uS/cm	1410		100	90.1-113			
LCS (3C22037-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3C22037-DUP1)			**Source: 2303354-01**								
Specific Conductance (EC)	3630			umhos/cm @25.0 C		3630			0.0276	20	
Batch 3C22049 - Default Prep GenChem											
Duplicate (3C22049-DUP1)			**Source: 2303327-01**								**HT-02**
pH	7.37			pH Units		7.35			0.272	5	
Duplicate (3C22049-DUP2)			**Source: 2303355-01**								**HT-02**
pH	6.13			pH Units		6.14			0.163	5	
Batch 3C27031 - Default Prep GenChem											
Blank (3C27031-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3C27031-BS1)											
Ammonia as N	4.91	0.04	0.21	mg/L	5.00		98.2	90-110			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27031 - Default Prep GenChem											
LCS Dup (3C27031-BSD1)											
Ammonia as N	4.90	0.04	0.21	mg/L	5.00		98.0	90-110	0.204	10	
Duplicate (3C27031-DUP1)			**Source: 2303355-02**								
Ammonia as N	10.2	0.04	0.21	mg/L		10.1			0.985	10	
Matrix Spike (3C27031-MS1)			**Source: 2303369-02**								
Ammonia as N	4.75	0.04	0.21	mg/L	5.00	0.14	92.2	90-110			
Matrix Spike Dup (3C27031-MSD1)			**Source: 2303369-02**								
Ammonia as N	5.00	0.04	0.21	mg/L	5.00	0.14	97.2	90-110	5.13	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C22033 - EPA 200.2 DCN 1017 Rev 10											
Blank (3C22033-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3C22033-BS1)											
Arsenic [He]	0.098	0.00078	0.00200	mg/L	0.100		98.1	85-115			
Chromium [He]	0.095	0.00016	0.00100	"	0.100		94.5	85-115			
Lead [He]	0.099	0.00022	0.00100	"	0.100		99.3	85-115			
Nickel [He]	0.095	0.00035	0.0400	"	0.100		95.4	85-115			
LCS Dup (3C22033-BSD1)											
Arsenic [He]	0.097	0.00078	0.00200	mg/L	0.100		96.6	85-115	1.56	20	
Chromium [He]	0.096	0.00016	0.00100	"	0.100		96.2	85-115	1.74	20	
Lead [He]	0.099	0.00022	0.00100	"	0.100		98.9	85-115	0.496	20	
Nickel [He]	0.094	0.00035	0.0400	"	0.100		93.9	85-115	1.60	20	
Matrix Spike (3C22033-MS1)			**Source: 2303332-01**								
Arsenic [He]	0.096	0.00078	0.00200	mg/L	0.100	0.0009	94.9	70-130			
Chromium [He]	0.088	0.00016	0.00100	"	0.100	0.0003	87.4	70-130			
Lead [He]	0.095	0.00022	0.00100	"	0.100	0.0003	95.1	70-130			
Nickel [He]	0.087	0.00035	0.0400	"	0.100	0.001	85.8	70-130			
Matrix Spike Dup (3C22033-MSD1)			**Source: 2303332-01**								
Arsenic [He]	0.097	0.00078	0.00200	mg/L	0.100	0.0009	95.7	70-130	0.842	20	
Chromium [He]	0.090	0.00016	0.00100	"	0.100	0.0003	89.3	70-130	2.21	20	
Lead [He]	0.096	0.00022	0.00100	"	0.100	0.0003	96.0	70-130	0.937	20	
Nickel [He]	0.089	0.00035	0.0400	"	0.100	0.001	87.3	70-130	1.75	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24011-BLK1)											
Acenaphthene	ND	0.09	1.08	ug/L							
Acenaphthylene	ND	0.09	1.16	"							
Anthracene	ND	0.10	1.29	"							
Benzo (a) anthracene	ND	0.09	0.92	"							
Benzo (b) fluoranthene	ND	0.14	1.43	"							
Benzo (k) fluoranthene	ND	0.12	0.85	"							
Benzo (a) pyrene	ND	0.12	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.36	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.55	1.65	"							CC-01
Chrysene	ND	0.08	0.89	"							
Dibenz (a,h) anthracene	ND	0.19	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.35	1.05	"							
2,4-Dinitrophenol	ND	1.44	4.32	"							
Di-n-octyl phthalate	ND	0.57	1.70	"							
Fluoranthene	ND	0.03	1.50	"							
Fluorene	ND	0.11	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.15	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							CC-01
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.08	0.99	"							
Pentachlorophenol	ND	1.03	3.09	"							
Phenanthrene	ND	0.09	1.20	"							
Pyrene	ND	0.16	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*7.47*			*"*	*10.0*		*74.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*3.31*			*"*	*5.00*		*66.2*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.05*			*"*	*10.0*		*50.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.71*			*"*	*5.00*		*34.2*	*10-100*			
Surrogate: Phenol-d5	*5.56*			*"*	*10.0*		*55.6*	*10-100*			*CC-03*
Surrogate: Terphenyl-dl4	*3.61*			*"*	*5.00*		*72.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24011-BS1)											
Acenaphthene	5.85	0.09	1.08	ug/L	10.0		58.5	23.3-110			
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107			
Anthracene	5.08	0.10	1.29	"	10.0		50.8	31-121			
Benzo (a) anthracene	6.05	0.09	0.92	"	10.0		60.5	28.5-120			
Benzo (b) fluoranthene	7.79	0.14	1.43	"	10.0		77.9	31.4-122			
Benzo (k) fluoranthene	6.73	0.12	0.85	"	10.0		67.3	24.6-125			
Benzo (a) pyrene	6.55	0.12	1.25	"	10.0		65.5	30.2-119			
Bis(2-ethylhexyl)phthalate	9.99	0.36	1.08	"	10.0		99.9	36.4-147			CC-03
Carbazole	9.12	2.62	7.86	"	10.0		91.2	25.1-145			
4-Chloro-3-methylphenol	7.59	0.55	1.65	"	10.0		75.9	33.8-133			
Chrysene	6.51	0.08	0.89	"	10.0		65.1	16.5-124			
Dibenz (a,h) anthracene	7.36	0.19	1.78	"	10.0		73.6	12.1-136			
Dibenzofuran	6.37	0.40	1.20	"	10.0		63.7	20.8-127			
2,4-Dimethylphenol	6.14	0.35	1.05	"	10.0		61.4	18.3-144			
2,4-Dinitrophenol	2.10	1.44	4.32	"	10.0		21.0	14.6-124			
Di-n-octyl phthalate	9.92	0.57	1.70	"	10.0		99.2	37.1-149			CC-03
Fluoranthene	5.62	0.03	1.50	"	10.0		56.2	29.2-123			
Fluorene	6.08	0.11	1.19	"	10.0		60.8	25.6-117			
Indeno (1,2,3-cd) pyrene	7.59	0.15	1.63	"	10.0		75.9	23.1-121			
2-Methylnaphthalene	6.26	0.05	1.28	"	10.0		62.6	20.8-109			
2-Methylphenol	7.21	0.41	1.24	"	10.0		72.1	27.9-113			
3 & 4-Methylphenol	16.3	1.13	3.39	"	20.0		81.5	23.5-113			
Naphthalene	6.25	0.08	0.99	"	10.0		62.5	16.7-105			
Pentachlorophenol	4.86	1.03	3.09	"	10.0		48.6	10-154			
Phenanthrene	6.51	0.09	1.20	"	10.0		65.1	22.8-123			
Pyrene	7.81	0.16	0.58	"	10.0		78.1	25.8-126			
2,4,6-Trichlorophenol	6.14	0.44	1.32	"	10.0		61.4	30-127			
1-Methylnaphthalene	4.87	0.05	1.28	"	10.0		48.7	17.2-108			
Surrogate: 2,4,6-Tribromophenol	*3.15*			"	*10.0*		*31.5*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.88*			"	*5.00*		*57.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.58*			"	*10.0*		*15.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.11*			"	*5.00*		*62.2*	*10-100*			
Surrogate: Phenol-d5	*3.31*			"	*10.0*		*33.1*	*10-100*			
Surrogate: Terphenyl-dl4	*3.42*			"	*5.00*		*68.4*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24011-BSD1)											
Acenaphthene	5.94	0.09	1.08	ug/L	10.0		59.4	23.3-110	1.53	48	
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107	0.00	74	
Anthracene	4.76	0.10	1.29	"	10.0		47.6	31-121	6.50	66	
Benzo (a) anthracene	6.44	0.09	0.92	"	10.0		64.4	28.5-120	6.24	53	
Benzo (b) fluoranthene	7.60	0.14	1.43	"	10.0		76.0	31.4-122	2.47	71	
Benzo (k) fluoranthene	7.86	0.12	0.85	"	10.0		78.6	24.6-125	15.5	63	
Benzo (a) pyrene	6.67	0.12	1.25	"	10.0		66.7	30.2-119	1.82	72	
Bis(2-ethylhexyl)phthalate	10.8	0.36	1.08	"	10.0		108	36.4-147	7.61	82	CC-03
Carbazole	8.77	2.62	7.86	"	10.0		87.7	25.1-145	3.91	40	CC-03
4-Chloro-3-methylphenol	6.99	0.55	1.65	"	10.0		69.9	33.8-133	8.23	73	
Chrysene	6.40	0.08	0.89	"	10.0		64.0	16.5-124	1.70	87	
Dibenz (a,h) anthracene	6.60	0.19	1.78	"	10.0		66.0	12.1-136	10.9	126	
Dibenzofuran	6.49	0.40	1.20	"	10.0		64.9	20.8-127	1.87	40	
2,4-Dimethylphenol	5.90	0.35	1.05	"	10.0		59.0	18.3-144	3.99	58	
2,4-Dinitrophenol	4.97	1.44	4.32	"	10.0		49.7	14.6-124	81.2	132	
Di-n-octyl phthalate	11.5	0.57	1.70	"	10.0		115	37.1-149	14.3	69	CC-03
Fluoranthene	5.33	0.03	1.50	"	10.0		53.3	29.2-123	5.30	66	
Fluorene	6.23	0.11	1.19	"	10.0		62.3	25.6-117	2.44	38	
Indeno (1,2,3-cd) pyrene	7.34	0.15	1.63	"	10.0		73.4	23.1-121	3.35	99	
2-Methylnaphthalene	5.96	0.05	1.28	"	10.0		59.6	20.8-109	4.91	40	
2-Methylphenol	7.12	0.41	1.24	"	10.0		71.2	27.9-113	1.26	40	
3 & 4-Methylphenol	17.9	1.13	3.39	"	20.0		89.5	23.5-113	9.36	40	
Naphthalene	6.33	0.08	0.99	"	10.0		63.3	16.7-105	1.27	65	
Pentachlorophenol	4.90	1.03	3.09	"	10.0		49.0	10-154	0.820	86	
Phenanthrene	6.58	0.09	1.20	"	10.0		65.8	22.8-123	1.07	39	
Pyrene	8.58	0.16	0.58	"	10.0		85.8	25.8-126	9.40	49	
2,4,6-Trichlorophenol	5.92	0.44	1.32	"	10.0		59.2	30-127	3.65	58	
1-Methylnaphthalene	4.86	0.05	1.28	"	10.0		48.6	17.2-108	0.206	40	
Surrogate: 2,4,6-Tribromophenol	*2.84*			"	*10.0*		*28.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.85*			"	*5.00*		*57.0*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.47*			"	*10.0*		*14.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.97*			"	*5.00*		*59.4*	*10-100*			
Surrogate: Phenol-d5	*2.74*			"	*10.0*		*27.4*	*10-100*			
Surrogate: Terphenyl-dl4	*3.64*			"	*5.00*		*72.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24011-DUP1)			**Source: 2303327-01**								
Acenaphthene	3.40	0.09	1.13	ug/L		2.77			20.4	45	
Acenaphthylene	ND	0.09	1.21	"		ND				45	
Anthracene	ND	0.10	1.34	"		ND				45	
Benzo (a) anthracene	ND	0.09	0.96	"		ND				45	
Benzo (b) fluoranthene	ND	0.15	1.49	"		ND				45	
Benzo (k) fluoranthene	0.59	0.13	0.89	"		1.78			100	45	P3
Benzo (a) pyrene	ND	0.13	1.30	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.13	"		ND				45	CC-01
Carbazole	ND	2.73	8.19	"		ND				45	CC-01
4-Chloro-3-methylphenol	ND	0.57	1.72	"		ND				45	
Chrysene	ND	0.08	0.93	"		ND				45	
Dibenz (a,h) anthracene	ND	0.19	1.85	"		ND				45	
Dibenzofuran	ND	0.42	1.25	"		ND				45	
2,4-Dimethylphenol	ND	0.36	1.09	"		ND				45	
2,4-Dinitrophenol	ND	1.50	4.50	"		ND				45	
Di-n-octyl phthalate	ND	0.59	1.77	"		ND				45	CC-01
Fluoranthene	1.42	0.03	1.56	"		1.61			12.5	45	
Fluorene	ND	0.11	1.24	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.15	1.70	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
2-Methylphenol	ND	0.43	1.29	"		ND				45	
3 & 4-Methylphenol	ND	1.18	3.53	"		ND				45	
Naphthalene	1.69	0.09	1.03	"		1.73			2.52	45	
Pentachlorophenol	ND	1.07	3.22	"		ND				45	
Phenanthrene	3.05	0.09	1.25	"		1.37			76.2	45	P3
Pyrene	1.40	0.16	0.60	"		1.61			14.0	45	
2,4,6-Trichlorophenol	ND	0.46	1.38	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*2.89*			"	*10.4*		*27.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*1.86*			"	*5.21*		*35.8*	*15.3-102*			
Surrogate: 2-Fluorophenol	*3.97*			"	*10.4*		*38.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.99*			"	*5.21*		*57.4*	*10-100*			
Surrogate: Phenol-d5	*3.40*			"	*10.4*		*32.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.08*			"	*5.21*		*40.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24011-MS1)		**Source: 2303327-01**									
Acenaphthene	8.78	0.09	1.13	ug/L	10.4	2.77	57.7	13.9-100			
Acenaphthylene	6.13	0.09	1.21	"	10.4	ND	58.8	24.9-100			
Anthracene	4.23	0.10	1.34	"	10.4	ND	40.6	18.9-116			
Benzo (a) anthracene	5.53	0.09	0.96	"	10.4	ND	53.1	17.8-114			
Benzo (b) fluoranthene	6.51	0.15	1.49	"	10.4	ND	62.5	10-130			
Benzo (k) fluoranthene	5.91	0.13	0.89	"	10.4	1.78	39.6	10-124			
Benzo (a) pyrene	5.27	0.13	1.30	"	10.4	ND	50.6	11.4-120			
Bis(2-ethylhexyl)phthalate	9.05	0.37	1.13	"	10.4	ND	86.9	10-158			CC-03
Carbazole	8.90	2.73	8.19	"	10.4	ND	85.4	15.3-151			CC-03
4-Chloro-3-methylphenol	5.06	0.57	1.72	"	10.4	ND	48.6	19.6-126			
Chrysene	6.26	0.08	0.93	"	10.4	ND	60.1	27.4-100			
Dibenz (a,h) anthracene	5.48	0.19	1.85	"	10.4	ND	52.6	24.3-106			
Dibenzofuran	6.43	0.42	1.25	"	10.4	ND	61.7	10-107			
2,4-Dimethylphenol	4.65	0.36	1.09	"	10.4	ND	44.6	10-141			
2,4-Dinitrophenol	4.28	1.50	4.50	"	10.4	ND	41.1	10-173			
Di-n-octyl phthalate	9.02	0.59	1.77	"	10.4	ND	86.6	45.7-114			CC-03
Fluoranthene	7.18	0.03	1.56	"	10.4	1.61	53.5	23.8-112			
Fluorene	6.92	0.11	1.24	"	10.4	ND	66.4	12.6-112			
Indeno (1,2,3-cd) pyrene	5.82	0.15	1.70	"	10.4	ND	55.9	24.7-104			
2-Methylnaphthalene	6.04	0.05	1.33	"	10.4	ND	58.0	30.6-100			
2-Methylphenol	5.85	0.43	1.29	"	10.4	ND	56.2	13-100			
3 & 4-Methylphenol	9.60	1.18	3.53	"	20.8	ND	46.1	10-100			
Naphthalene	7.40	0.09	1.03	"	10.4	1.73	54.4	14.1-100			
Pentachlorophenol	2.88	1.07	3.22	"	10.4	ND	27.6	10-155			
Phenanthrene	9.80	0.09	1.25	"	10.4	1.37	81.0	21.9-105			
Pyrene	10.2	0.16	0.60	"	10.4	1.61	82.4	10-131			
2,4,6-Trichlorophenol	4.86	0.46	1.38	"	10.4	ND	46.7	21.4-119			
1-Methylnaphthalene	4.85	0.05	1.33	"	10.4	ND	46.6	13.8-101			
Surrogate: 2,4,6-Tribromophenol	*2.54*			"	*10.4*		*24.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.48*			"	*5.21*		*47.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.96*			"	*10.4*		*57.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*4.71*			"	*5.21*		*90.4*	*10-100*			
Surrogate: Phenol-d5	*1.83*			"	*10.4*		*17.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.48*			"	*5.21*		*47.6*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
Blank (3C27020-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*106*			"	*100*		*106*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*31.4*			"	*50.0*		*62.9*	*14.6-104*			
Surrogate: 2-Fluorophenol	*29.9*			"	*100*		*29.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*20.8*			"	*50.0*		*41.6*	*10-108*			
Surrogate: Phenol-d5	*20.9*			"	*100*		*20.9*	*10-100*			
Surrogate: Terphenyl-dl4	*32.1*			"	*50.0*		*64.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
LCS (3C27020-BS1)											
Acenaphthene	65.9	1.13	10.0	ug/L	100		65.9	34.2-100			
Acenaphthylene	77.3	1.07	10.0	"	100		77.3	25.3-109			
Anthracene	67.0	0.99	10.0	"	100		67.0	35.2-100			
Benzo (a) anthracene	62.2	0.87	10.0	"	100		62.2	35.2-100			
Benzo (b) fluoranthene	59.6	1.03	10.0	"	100		59.6	30.2-101			
Benzo (k) fluoranthene	58.2	1.01	10.0	"	100		58.2	29.8-101			
Benzo (a) pyrene	62.5	0.98	10.0	"	100		62.5	32.8-105			
Bis(2-ethylhexyl)phthalate	62.0	1.14	10.0	"	100		62.0	23.6-121			
Carbazole	86.2	0.90	10.0	"	100		86.2	10-145			
4-Chloro-3-methylphenol	71.4	1.04	10.0	"	100		71.4	39.5-100			
Chrysene	68.9	0.92	10.0	"	100		68.9	14.3-109			
Dibenz (a,h) anthracene	70.0	0.67	10.0	"	100		70.0	15.2-113			
Dibenzofuran	71.0	1.04	10.0	"	100		71.0	35-100			
2,4-Dimethylphenol	59.5	0.84	10.0	"	100		59.5	32.5-100			
2,4-Dinitrophenol	86.6	3.05	10.0	"	100		86.6	10-133			
Di-n-octyl phthalate	51.0	1.35	10.0	"	100		51.0	10-127			
Fluoranthene	75.1	0.93	10.0	"	100		75.1	19.8-125			
Fluorene	69.9	1.01	10.0	"	100		69.9	31.2-105			
Indeno (1,2,3-cd) pyrene	80.0	0.89	10.0	"	100		80.0	25.2-107			
2-Methylnaphthalene	66.6	1.12	10.0	"	100		66.6	22.3-100			
2-Methylphenol	51.1	0.88	10.0	"	100		51.1	28.1-100			
3 & 4-Methylphenol	92.7	0.87	10.0	"	200		46.4	24.5-100			
Naphthalene	58.7	1.09	10.0	"	100		58.7	23.4-100			
Pentachlorophenol	83.3	2.72	10.0	"	100		83.3	10-102			
Phenanthrene	69.3	0.93	10.0	"	100		69.3	34.8-100			
Pyrene	59.6	1.09	10.0	"	100		59.6	10-124			
2,4,6-Trichlorophenol	73.0	2.58	10.0	"	100		73.0	38.3-100			
Surrogate: 2,4,6-Tribromophenol	*122*			"	*100*		*122*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*34.2*			"	*50.0*		*68.3*	*14.6-104*			
Surrogate: 2-Fluorophenol	*31.4*			"	*100*		*31.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*28.7*			"	*50.0*		*57.4*	*10-108*			
Surrogate: Phenol-d5	*25.7*			"	*100*		*25.7*	*10-100*			
Surrogate: Terphenyl-dl4	*36.0*			"	*50.0*		*72.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C27020-BSD1)											
Acenaphthene	66.6	1.13	10.0	ug/L	100		66.6	34.2-100	1.16	40	
Acenaphthylene	79.3	1.07	10.0	"	100		79.3	25.3-109	2.54	40	
Anthracene	68.4	0.99	10.0	"	100		68.4	35.2-100	2.10	40	
Benzo (a) anthracene	64.1	0.87	10.0	"	100		64.1	35.2-100	2.96	40	
Benzo (b) fluoranthene	61.8	1.03	10.0	"	100		61.8	30.2-101	3.59	40	
Benzo (k) fluoranthene	61.7	1.01	10.0	"	100		61.7	29.8-101	5.96	40	
Benzo (a) pyrene	63.9	0.98	10.0	"	100		63.9	32.8-105	2.18	40	
Bis(2-ethylhexyl)phthalate	63.1	1.14	10.0	"	100		63.1	23.6-121	1.81	40	
Carbazole	88.4	0.90	10.0	"	100		88.4	10-145	2.50	40	
4-Chloro-3-methylphenol	76.2	1.04	10.0	"	100		76.2	39.5-100	6.49	40	
Chrysene	69.7	0.92	10.0	"	100		69.7	14.3-109	1.17	40	
Dibenz (a,h) anthracene	72.5	0.67	10.0	"	100		72.5	15.2-113	3.49	40	
Dibenzofuran	70.9	1.04	10.0	"	100		70.9	35-100	0.113	40	
2,4-Dimethylphenol	57.1	0.84	10.0	"	100		57.1	32.5-100	4.00	40	
2,4-Dinitrophenol	88.0	3.05	10.0	"	100		88.0	10-133	1.59	40	
Di-n-octyl phthalate	52.9	1.35	10.0	"	100		52.9	10-127	3.66	40	
Fluoranthene	76.4	0.93	10.0	"	100		76.4	19.8-125	1.62	40	
Fluorene	71.3	1.01	10.0	"	100		71.3	31.2-105	2.05	40	
Indeno (1,2,3-cd) pyrene	83.1	0.89	10.0	"	100		83.1	25.2-107	3.80	40	
2-Methylnaphthalene	67.4	1.12	10.0	"	100		67.4	22.3-100	1.07	40	
2-Methylphenol	54.0	0.88	10.0	"	100		54.0	28.1-100	5.46	40	
3 & 4-Methylphenol	96.7	0.87	10.0	"	200		48.4	24.5-100	4.24	40	
Naphthalene	60.8	1.09	10.0	"	100		60.8	23.4-100	3.45	40	
Pentachlorophenol	88.4	2.72	10.0	"	100		88.4	10-102	5.92	40	
Phenanthrene	70.7	0.93	10.0	"	100		70.7	34.8-100	1.94	40	
Pyrene	61.8	1.09	10.0	"	100		61.8	10-124	3.62	40	
2,4,6-Trichlorophenol	75.6	2.58	10.0	"	100		75.6	38.3-100	3.47	40	
Surrogate: 2,4,6-Tribromophenol	*122*			"	*100*		*122*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*34.4*			"	*50.0*		*68.8*	*14.6-104*			
Surrogate: 2-Fluorophenol	*33.1*			"	*100*		*33.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.9*			"	*50.0*		*59.7*	*10-108*			
Surrogate: Phenol-d5	*26.7*			"	*100*		*26.7*	*10-100*			
Surrogate: Terphenyl-dl4	*37.0*			"	*50.0*		*73.9*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C27020-DUP1)			**Source: 2303327-04**								
Acenaphthene	246	11.8	105	ug/L		201			20.2	45	
Acenaphthylene	ND	1.12	10.5	"		ND				45	
Anthracene	ND	1.03	10.5	"		ND				45	
Benzo (a) anthracene	ND	0.91	10.5	"		ND				45	
Benzo (b) fluoranthene	ND	1.08	10.5	"		ND				45	
Benzo (k) fluoranthene	ND	1.06	10.5	"		ND				45	
Benzo (a) pyrene	ND	1.02	10.5	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.5	"		ND				45	
Carbazole	576	9.39	105	"		426			29.9	45	
4-Chloro-3-methylphenol	ND	1.09	10.5	"		ND				45	
Chrysene	ND	0.97	10.5	"		ND				45	
Dibenz (a,h) anthracene	ND	0.70	10.5	"		ND				45	
Dibenzofuran	104	1.09	10.5	"		73.4			34.8	45	
2,4-Dimethylphenol	ND	0.88	10.5	"		ND				45	
2,4-Dinitrophenol	ND	3.19	10.5	"		ND				45	
Di-n-octyl phthalate	ND	1.41	10.5	"		ND				45	CC-01
Fluoranthene	ND	0.98	10.5	"		ND				45	
Fluorene	132	10.6	105	"		95.7			32.2	45	
Indeno (1,2,3-cd) pyrene	ND	0.93	10.5	"		ND				45	
2-Methylnaphthalene	30.6	1.17	10.5	"		31.2			1.79	45	
2-Methylphenol	ND	0.92	10.5	"		ND				45	
3 & 4-Methylphenol	ND	0.91	10.5	"		ND				45	
Naphthalene	1620	11.4	105	"		1690			4.07	45	
Pentachlorophenol	ND	2.85	10.5	"		ND				45	
Phenanthrene	57.1	0.97	10.5	"		47.4			18.6	45	
Pyrene	ND	1.14	10.5	"		ND				45	
2,4,6-Trichlorophenol	ND	2.70	10.5	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*108*			"	*105*		*103*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*35.7*			"	*52.4*		*68.2*	*14.6-104*			
Surrogate: 2-Fluorophenol	*22.7*			"	*105*		*21.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*13.5*			"	*52.4*		*25.8*	*10-108*			
Surrogate: Phenol-d5	*20.0*			"	*105*		*19.1*	*10-100*			
Surrogate: Terphenyl-dl4	*34.0*			"	*52.4*		*65.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C27020-MS1)		**Source: 2303327-04**									
Acenaphthene	296	11.6	103	ug/L	103	201	93.0	10-127			
Acenaphthylene	76.1	1.10	10.3	"	103	ND	74.2	25.9-100			
Anthracene	72.4	1.01	10.3	"	103	ND	70.6	22.8-100			
Benzo (a) anthracene	48.5	0.89	10.3	"	103	ND	47.3	29.4-100			
Benzo (b) fluoranthene	35.5	1.06	10.3	"	103	ND	34.6	14.6-103			
Benzo (k) fluoranthene	41.7	1.04	10.3	"	103	ND	40.6	20.3-100			
Benzo (a) pyrene	35.0	1.00	10.3	"	103	ND	34.1	25.9-100			
Bis(2-ethylhexyl)phthalate	44.7	1.17	10.3	"	103	ND	43.5	13.2-100			
Carbazole	586	9.20	103	"	103	426	156	10-171			
4-Chloro-3-methylphenol	47.5	1.07	10.3	"	103	ND	46.3	27.9-100			
Chrysene	50.3	0.95	10.3	"	103	ND	49.0	10-100			
Dibenz (a,h) anthracene	31.4	0.69	10.3	"	103	ND	30.6	10-114			
Dibenzofuran	154	10.7	103	"	103	73.4	78.9	10-105			
2,4-Dimethylphenol	54.7	0.86	10.3	"	103	ND	53.3	17.4-100			
2,4-Dinitrophenol	28.4	3.13	10.3	"	103	ND	27.7	10-131			
Di-n-octyl phthalate	45.2	1.38	10.3	"	103	ND	44.1	10-112			CC-03
Fluoranthene	79.4	0.96	10.3	"	103	ND	77.4	14-111			
Fluorene	177	10.4	103	"	103	95.7	79.3	10-111			
Indeno (1,2,3-cd) pyrene	28.1	0.91	10.3	"	103	ND	27.4	12.1-106			
2-Methylnaphthalene	83.3	1.15	10.3	"	103	31.2	50.8	10-106			
2-Methylphenol	48.8	0.90	10.3	"	103	ND	47.5	21.1-100			
3 & 4-Methylphenol	97.5	0.89	10.3	"	205	ND	47.5	19.5-100			
Naphthalene	2640	112	1030	"	103	1690	926	20-100			M5
Pentachlorophenol	95.8	2.79	10.3	"	103	ND	93.4	10-111			
Phenanthrene	130	9.52	103	"	103	47.4	80.4	12-108			
Pyrene	52.8	1.12	10.3	"	103	ND	51.5	10-119			
2,4,6-Trichlorophenol	74.2	2.65	10.3	"	103	ND	72.4	31.4-100			
Surrogate: 2,4,6-Tribromophenol	*86.1*			"	*103*		*83.9*	*15.8-107*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*27.9*			"	*51.3*		*54.4*	*14.6-104*			
Surrogate: 2-Fluorophenol	*17.2*			"	*103*		*16.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*5.33*			"	*51.3*		*10.4*	*10-108*			
Surrogate: Phenol-d5	*19.3*			"	*103*		*18.8*	*10-100*			
Surrogate: Terphenyl-dl4	*27.6*			"	*51.3*		*53.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C28023 - EPA 5030B											
Blank (3C28023-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.3*			"	*50.0*		*98.5*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.7*	*80.2-119*			
Surrogate: Toluene-d8	*49.2*			"	*50.0*		*98.4*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*49.6*			"	*50.0*		*99.1*	*76.1-131*			
LCS (3C28023-BS1)											
Benzene	26.5	0.258	5.00	ug/L	20.0		132	68-136			
Ethylbenzene	25.9	0.190	5.00	"	20.0		129	70.3-136			
Surrogate: Dibromofluoromethane	*50.6*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*46.6*			"	*50.0*		*93.2*	*80.2-119*			
Surrogate: Toluene-d8	*55.5*			"	*50.0*		*111*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*45.7*			"	*50.0*		*91.4*	*76.1-131*			
LCS Dup (3C28023-BSD1)											
Benzene	18.9	0.258	5.00	ug/L	20.0		94.4	68-136	33.6	30	L3
Ethylbenzene	19.0	0.190	5.00	"	20.0		95.2	70.3-136	30.5	30	L3
Surrogate: Dibromofluoromethane	*50.3*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.0*			"	*50.0*		*94.0*	*80.2-119*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*46.4*			"	*50.0*		*92.7*	*76.1-131*			
Matrix Spike (3C28023-MS1)		**Source: 2303327-04**									
Benzene	28.6	0.258	5.00	ug/L	20.0	6.15	112	68-144			
Ethylbenzene	47.6	0.190	5.00	"	20.0	28.7	94.9	69.2-134			
Surrogate: Dibromofluoromethane	*50.5*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.6*			"	*50.0*		*95.2*	*80.2-119*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*48.1*			"	*50.0*		*96.2*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C28023 - EPA 5030B											
Matrix Spike Dup (3C28023-MSD1)			**Source: 2303327-04**								
Benzene	24.0	0.258	5.00	ug/L	20.0	6.15	89.0	68-144	17.7	35	
Ethylbenzene	42.8	0.190	5.00	"	20.0	28.7	70.6	69.2-134	10.8	35	
Surrogate: Dibromofluoromethane	*50.2*			*"*	*50.0*		*100*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.0*			*"*	*50.0*		*96.0*	*80.2-119*			
Surrogate: Toluene-d8	*55.8*			*"*	*50.0*		*112*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*47.6*			*"*	*50.0*		*95.3*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 04/19/2023 07:39

2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/19/2023 07:39

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2023*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2023*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:39

Analyst Initials Key

FullName	Initials
Alexandria S Calloway	ASC
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2303327

Company Name: CAVENHAM FOREST IND.
Address: P.O BOX 15369
City: HATTIESBURG State: MS Zip: 39404
Phone: 601-544-3674
Fax: 601-544-0504

Project Manager: ETHAN ALLEN
Purchase Order #:
Email Address : EALLEN@ENV-MGT.COM
Sampler Name Printed: JEFF GONSOULIN
Sampler Name Signed:

Project Name: MOBILE CFI 1ST QTR 2023
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal
__Next Day*
__2nd Day*
__Other*_____
*All rush order requests must be prior approved.
__Phone
__Mail
__Fax
__Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	Preservative: # of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
RW-1	3-20-23/15:15	W	9	G	X	X	X	X	X	X	X
RW-2	3-20-23/15:22	W	9	G	X	X	X	X	X	X	X
RC-1	3-20-23/15:35	W	7	G	X	X	X	X	X	X	X
RC-1A	3-20-23/16:35	W	11	G	X	X	X	X	X	X	X
E-2	3-20-23/13:34	W	9	G	X	X	X	X	X	X	X
B-25	3-20-23/12:45	W	9	G	X	X	X	X	X	X	X
B-24	3-20-23/15:55	W	9	G	X	X	X	X	X	X	X
TBV# 7101	3-20-23/12:45	W	2	G							X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 5 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3/24/23	17:30
Received by	Kaleb Atkins		EMS	3-20-23	1730
Relinquished by	Kaleb Atkins		EMS	3-21-23	0807
Received by	Sarah Tomek		MM	3/21/23	0807
Relinquished by					
Received by					

Notes:
cooler #1103 0.0°c
client cooler -0.1°c
cooler #1146 0.1°c

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 10, 2023

Ethan Allen

Work Order # : 2303355

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/22/2023 08:02. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-101	2303355-01	Water	03/21/2023 11:32	*Kaleb Atkins*	03/22/2023 08:02
Mobile/B-128	2303355-02	Water	03/21/2023 13:05	*Kaleb Atkins*	03/22/2023 08:02
Mobile/B-108A	2303355-03	Water	03/21/2023 14:20	*Kaleb Atkins*	03/22/2023 08:02
Mobile/UG-2	2303355-04	Water	03/21/2023 16:10	*Jeff Gonsoulin*	03/22/2023 08:02
Trip Blank TBV#7102	2303355-05	Water	03/21/2023 11:32	*Micro Methods*	03/22/2023 08:02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Sample Receipt Conditions

Date/Time Received: 3/22/2023 8:02:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/22/2023 8:11:00AM
Cooler ID: #1146

Shipped by: Client Delivery
Submitted by: Kaleb Atkins
Logged by: Sarah E. Tomek
Receipt Temperature: -0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Cooler ID: client cooler

Receipt Temperature: 0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/10/2023 11:57

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/10/2023 11:57

Total Metals-EPA 200.8 Rev 5.4

Qualifiers:

IS-04 The internal standard(s) was above the acceptable criteria range. QC results within acceptable limits.

Chromium [He]
3C24013-MSD1

Volatile Organic Compounds-EPA 8260D

Qualifiers:

L3 LCS/LCSD Precision Limit exceeded.

Benzene, Ethylbenzene
3C28023-BSD1

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

B-10 The analyte value in the BLK or CCB is >=1/2xMRL but <MRL.

2-Methylnaphthalene
3C24010-BLK1

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2-Methylphenol, 4-Chloro-3-methylphenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate
3C24011-BLK1, 2303355-01[Mobile/B-101], 2303355-02[Mobile/B-128], 2303355-03[Mobile/B-108A], 2303355-04[Mobile/UG-2], 3C24011-DUP1

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate, Indeno (1,2,3-cd) pyrene, Phenol-d5
3C24011-BS1, 3C24011-BSD1, 3C24011-MS1, 3C24010-BS1, 3C24010-BSD1, 3C24011-BLK1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene
3C24010-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/10/2023 11:57

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Fluoranthene, Phenanthrene

3C24010-DUP1, 3C24011-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2303355-01[Mobile/B-101], 2303355-02[Mobile/B-128], 2303355-03[Mobile/B-108A], 2303355-04[Mobile/UG-2], 3C22049-DUP1, 3C22049-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/B-101

2303355-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.21**	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 00:53	EPA 8270D	
2-Methylnaphthalene	**0.07**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.08**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	**0.23**	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.29**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	**0.09**	0.02	0.06	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.05**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.51**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.38**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.40**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.26**	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0609	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.102	*50.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.112	*55.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:45	Lachat 10-107-06-1-I	
Chloride	**37.9**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**6.14**			pH Units	"	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**288**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C22036	DLW	03/22/2023 11:00	03/22/2023 11:26	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C24013	GWG	03/24/2023 11:00	03/27/2023 12:40	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/B-101

2303355-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.36	1.10	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/03/2023 00:09	EPA 8270D	CC-01
Carbazole	ND	2.66	7.98	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.35	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.46	4.39	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**1.52**	0.03	1.52	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.44	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
Pyrene	**4.21**	0.16	0.59	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.30	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	2.90	*28.6 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.73	*53.8 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	1.91	*18.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.44	*28.4 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	6.82	*67.2 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.27	*64.4 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 16:16	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.7	*91.4 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.9	*91.7 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.6	*107 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.8	*91.6 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/B-128

2303355-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.15**	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 01:35	EPA 8270D	
2-Methylnaphthalene	**0.11**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.09**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Anthracene	**0.07**	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.17**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.10**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.06**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.05**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.44**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.12**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.35**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.24**	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0816	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.122	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.102	*50.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	**10.1**	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:46	Lachat 10-107-06-1-I	
Chloride	**906**	0.82	100	"	20.0	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**6.18**			pH Units	1.0	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C22036	DLW	03/22/2023 11:00	03/22/2023 11:26	HACH 10206	
Specific Conductance (EC)	**3310**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C24013	GWG	03/24/2023 11:00	03/27/2023 13:55	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/B-128

2303355-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/03/2023 00:45	EPA 8270D	CC-01
Carbazole	ND	2.67	8.02	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.47	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
Phenanthrene	**2.06**	0.09	1.22	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.31	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	2.59	*25.4 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.61	*51.2 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	2.00	*19.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.39	*86.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	7.88	*77.2 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.43	*67.2 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 16:40	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.1	*90.2 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	43.1	*86.2 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	54.4	*109 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	44.7	*89.4 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/B-108A

2303355-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 02:17	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.22**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.08**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.36**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.10**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.29**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.25**	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0812	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.112	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.102	*50.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	**7.30**	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:48	Lachat 10-107-06-1-I	
Chloride	**1380**	0.82	100	"	20.0	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**6.19**			pH Units	1.0	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**4470**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C22036	DLW	03/22/2023 11:00	03/22/2023 11:26	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C24013	GWG	03/24/2023 11:00	03/27/2023 12:49	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/B-108A

2303355-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/03/2023 01:20	EPA 8270D	CC-01
Carbazole	ND	2.67	8.02	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.47	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.31	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	2.81	*27.5 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.53	*49.6 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	5.88	*57.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.91	*76.6 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	5.01	*49.1 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	4.00	*78.4 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 17:03	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.0	*92.0 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.0	*91.9 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	54.4	*109 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	44.8	*89.5 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/UG-2

2303355-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.16**	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 02:59	EPA 8270D	
2-Methylnaphthalene	**0.05**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.05**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.24**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.10**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.06**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.34**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.24**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.29**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.26**	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0816	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.112	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.102	*50.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C27031	CRG	03/27/2023 08:30	03/27/2023 11:49	Lachat 10-107-06-1-I	
Chloride	**5.39**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**4.34**			pH Units	"	3C22049	JBM	03/22/2023 14:30	03/22/2023 14:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**179**			umhos/cm @25.0 C	"	3C22037	JBM	03/22/2023 11:35	03/22/2023 11:38	SM 2510 B-2011	
Nitrate as N	**2.29**	0.10	0.50	mg/L	"	3C22036	DLW	03/22/2023 11:00	03/22/2023 11:26	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C24013	GWG	03/24/2023 11:00	03/27/2023 13:02	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Mobile/UG-2

2303355-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/03/2023 01:56	EPA 8270D	CC-01
Carbazole	ND	2.67	8.02	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.47	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.31	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	3.01	*29.5 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.99	*58.6 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	1.16	*11.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.06	*79.6 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	5.89	*57.7 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.62	*71.0 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 17:27	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.9	*91.8 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.2	*92.3 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.0	*106 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.3	*92.5 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Trip Blank TBV#7102

2303355-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 17:51	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.2	*92.4 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.8	*95.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	52.8	*106 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	44.6	*89.3 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24010-BLK1)											
Naphthalene	ND	0.02	0.15	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							B-10
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.110*			"	*0.200*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24010-BS1)											
Naphthalene	0.22	0.02	0.15	ug/L	0.200		110	10-145			
2-Methylnaphthalene	0.14	0.05	0.05	"	0.200		70.0	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.13	0.02	0.05	"	0.200		65.0	10-143			
Fluorene	0.18	0.02	0.12	"	0.200		90.0	10-150			
Phenanthrene	0.25	0.02	0.06	"	0.200		125	10-151			
Anthracene	0.15	0.02	0.06	"	0.200		75.0	10-130			
Fluoranthene	0.24	0.03	0.06	"	0.200		120	10-155			
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148			
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141			
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150			
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160			
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159			
Benzo (a) pyrene	0.19	0.02	0.06	"	0.200		95.0	10-177			
Indeno (1,2,3-cd) pyrene	0.26	0.02	0.17	"	0.200		130	10.7-171			CC-03
Dibenz (a,h) anthracene	0.18	0.04	0.16	"	0.200		90.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.130*			"	*0.200*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24010-BSD1)											
Naphthalene	0.23	0.02	0.15	ug/L	0.200		115	10-145	4.44	40	
2-Methylnaphthalene	0.15	0.05	0.05	"	0.200		75.0	50-150	6.90	40	
Acenaphthylene	0.15	0.01	0.06	"	0.200		75.0	10-147	6.90	40	
Acenaphthene	0.16	0.02	0.05	"	0.200		80.0	10-143	20.7	40	
Fluorene	0.20	0.02	0.12	"	0.200		100	10-150	10.5	40	
Phenanthrene	0.30	0.02	0.06	"	0.200		150	10-151	18.2	40	
Anthracene	0.16	0.02	0.06	"	0.200		80.0	10-130	6.45	40	
Fluoranthene	0.28	0.03	0.06	"	0.200		140	10-155	15.4	40	
Pyrene	0.18	0.02	0.05	"	0.200		90.0	10-148	5.41	40	
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141	0.00	40	
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150	0.00	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	0.00	40	
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159	0.00	40	
Benzo (a) pyrene	0.18	0.02	0.06	"	0.200		90.0	10-177	5.41	40	
Indeno (1,2,3-cd) pyrene	0.24	0.02	0.17	"	0.200		120	10.7-171	8.00	40	CC-03
Dibenz (a,h) anthracene	0.17	0.04	0.16	"	0.200		85.0	16-164	5.71	40	
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.120*			"	*0.200*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24010-DUP1)			**Source: 2303327-02**								
Naphthalene	446	22.5	155	ug/L		392			12.9	45	
2-Methylnaphthalene	49.7	5.18	5.18	"		47.4			4.77	45	
Acenaphthylene	1.24	0.12	0.62	"		1.34			7.48	45	
Acenaphthene	218	22.5	51.8	"		216			0.517	45	
Fluorene	96.4	1.74	12.4	"		95.9			0.517	45	
Phenanthrene	383	15.9	62.2	"		423			9.74	45	
Anthracene	31.1	1.59	6.22	"		29.9			3.91	45	
Fluoranthene	99.5	2.66	6.22	"		237			81.8	45	P3
Pyrene	46.6	1.74	5.18	"		52.6			12.0	45	
Benzo (a) anthracene	7.05	0.26	0.62	"		16.5			80.3	45	P3
Chrysene	5.70	0.31	0.52	"		9.79			52.9	45	P3
Benzo (b) fluoranthene	3.83	0.27	0.52	"		13.4			111	45	P3
Benzo (k) fluoranthene	0.81	0.03	0.05	"		1.34			49.5	45	P3
Benzo (a) pyrene	1.55	0.22	0.62	"		2.58			49.5	45	P3
Indeno (1,2,3-cd) pyrene	0.41	0.03	0.18	"		0.65			44.2	45	
Dibenz (a,h) anthracene	0.17	0.04	0.17	"		0.26			43.4	45	
Surrogate: 2-Fluorobiphenyl	*0.0725*			"	*0.207*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.135*			"	*0.207*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.207*		*75.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24010-MS1)		**Source: 2303327-02**									
Naphthalene	361	22.4	155	ug/L	0.206	392	NR	10-182			M5
2-Methylnaphthalene	43.3	5.15	5.15	"	0.206	47.4	NR	0-200			M5
Acenaphthylene	1.24	0.12	0.62	"	0.206	1.34	NR	10-200			M5
Acenaphthene	186	22.4	51.5	"	0.206	216	NR	10-200			M5
Fluorene	155	17.3	124	"	0.206	95.9	NR	10-200			M5
Phenanthrene	330	15.8	61.9	"	0.206	423	NR	46.3-156			M5
Anthracene	61.9	15.8	61.9	"	0.206	29.9	NR	12.9-149			M5
Fluoranthene	186	26.5	61.9	"	0.206	237	NR	10-200			M5
Pyrene	82.5	17.3	51.5	"	0.206	52.6	NR	10-191			M5
Benzo (a) anthracene	7.94	0.25	0.62	"	0.206	16.5	NR	19.3-191			M5
Chrysene	6.39	0.31	0.52	"	0.206	9.79	NR	16.5-166			M5
Benzo (b) fluoranthene	4.23	0.26	0.52	"	0.206	13.4	NR	17.3-163			M5
Benzo (k) fluoranthene	0.95	0.03	0.05	"	0.206	1.34	NR	23.7-152			M5
Benzo (a) pyrene	1.96	0.22	0.62	"	0.206	2.58	NR	10-200			M5
Indeno (1,2,3-cd) pyrene	0.49	0.03	0.18	"	0.206	0.65	NR	10-189			M5
Dibenz (a,h) anthracene	0.25	0.04	0.16	"	0.206	0.26	NR	51.1-147			M5
Surrogate: 2-Fluorobiphenyl	*0.0722*			"	*0.206*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.113*			"	*0.206*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.206*		*75.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C22036 - Default Prep GenChem											
Blank (3C22036-BLK1)											
Nitrate as N	ND	0.10	0.50	mg/L							
LCS (3C22036-BS1)											
Nitrate as N	10.6	0.10	0.50	mg/L	10.0		106	90-110			
LCS Dup (3C22036-BSD1)											
Nitrate as N	10.5	0.10	0.50	mg/L	10.0		105	90-110	0.948	20	
Duplicate (3C22036-DUP1)			**Source: 2303355-04**								
Nitrate as N	2.24	0.10	0.50	mg/L		2.29			2.21	20	
Matrix Spike (3C22036-MS1)			**Source: 2303355-04**								
Nitrate as N	6.49	0.10	0.50	mg/L	4.00	2.29	105	90-110			
Matrix Spike Dup (3C22036-MSD1)			**Source: 2303355-04**								
Nitrate as N	6.37	0.10	0.50	mg/L	4.00	2.29	102	90-110	1.87	20	
Batch 3C22037 - Default Prep GenChem											
Blank (3C22037-BLK1)											
Specific Conductance (EC)	1			umhos/cm @25.0 C							
LCS (3C22037-BS1)											
Specific Conductance (EC)	1410			uS/cm	1410		100	90.1-113			
LCS (3C22037-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C22037 - Default Prep GenChem											
Duplicate (3C22037-DUP1)			**Source: 2303354-01**								
Specific Conductance (EC)	3630			umhos/cm @25.0 C		3630			0.0276	20	
Batch 3C22049 - Default Prep GenChem											
Duplicate (3C22049-DUP1)			**Source: 2303327-01**								**HT-02**
pH	7.37			pH Units		7.35			0.272	5	
Duplicate (3C22049-DUP2)			**Source: 2303355-01**								**HT-02**
pH	6.13			pH Units		6.14			0.163	5	
Batch 3C27031 - Default Prep GenChem											
Blank (3C27031-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3C27031-BS1)											
Ammonia as N	4.91	0.04	0.21	mg/L	5.00		98.2	90-110			
LCS Dup (3C27031-BSD1)											
Ammonia as N	4.90	0.04	0.21	mg/L	5.00		98.0	90-110	0.204	10	
Duplicate (3C27031-DUP1)			**Source: 2303355-02**								
Ammonia as N	10.2	0.04	0.21	mg/L		10.1			0.985	10	
Matrix Spike (3C27031-MS1)			**Source: 2303369-02**								
Ammonia as N	4.75	0.04	0.21	mg/L	5.00	0.14	92.2	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27031 - Default Prep GenChem											
Matrix Spike Dup (3C27031-MSD1)			**Source: 2303369-02**								
Ammonia as N	5.00	0.04	0.21	mg/L	5.00	0.14	97.2	90-110	5.13	10	
Batch 3C27032 - Default Prep GenChem											
Blank (3C27032-BLK1)											
Chloride	ND	0.04	5.00	mg/L							
LCS (3C27032-BS1)											
Chloride	25.0	0.04	5.00	mg/L	25.0		100	85-115			
LCS Dup (3C27032-BSD1)											
Chloride	25.3	0.04	5.00	mg/L	25.0		101	85-115	1.19	30	
Duplicate (3C27032-DUP1)			**Source: 2303355-04**								
Chloride	5.47	0.04	5.00	mg/L		5.39			1.47	20	
Duplicate (3C27032-DUP2)			**Source: 2303415-06**								
Chloride	13.2	0.04	5.00	mg/L		13.3			0.755	20	
Matrix Spike (3C27032-MS1)			**Source: 2303355-04**								
Chloride	26.5	0.04	5.00	mg/L	20.0	5.39	106	70-130			
Matrix Spike Dup (3C27032-MSD1)			**Source: 2303355-04**								
Chloride	26.6	0.04	5.00	mg/L	20.0	5.39	106	70-130	0.377	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24013 - EPA 200.2 DCN 1017 Rev 10											
Blank (3C24013-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3C24013-BS1)											
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100		103	85-115			
Chromium [He]	0.105	0.00016	0.00100	"	0.100		105	85-115			
Lead [He]	0.104	0.00022	0.00100	"	0.100		104	85-115			
Nickel [He]	0.103	0.00035	0.0400	"	0.100		103	85-115			
LCS Dup (3C24013-BSD1)											
Arsenic [He]	0.100	0.00078	0.00200	mg/L	0.100		100	85-115	2.54	20	
Chromium [He]	0.104	0.00016	0.00100	"	0.100		104	85-115	1.01	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100		103	85-115	1.66	20	
Nickel [He]	0.101	0.00035	0.0400	"	0.100		101	85-115	1.85	20	
Matrix Spike (3C24013-MS1)			**Source: 2303369-02**								
Arsenic [He]	0.106	0.00078	0.00200	mg/L	0.100	0.003	102	70-130			
Chromium [He]	0.095	0.00016	0.00100	"	0.100	0.0006	94.2	70-130			
Lead [He]	0.105	0.00022	0.00100	"	0.100	ND	105	70-130			
Nickel [He]	0.095	0.00035	0.0400	"	0.100	0.003	92.0	70-130			
Matrix Spike Dup (3C24013-MSD1)			**Source: 2303369-02**								
Arsenic [He]	0.107	0.00078	0.00200	mg/L	0.100	0.003	103	70-130	1.09	20	
Chromium [He]	0.095	0.00016	0.00100	"	0.100	0.0006	94.3	70-130	0.150	20	IS-04
Lead [He]	0.109	0.00022	0.00100	"	0.100	ND	109	70-130	3.55	20	
Nickel [He]	0.097	0.00035	0.0400	"	0.100	0.003	93.4	70-130	1.46	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24011-BLK1)											
Acenaphthene	ND	0.09	1.08	ug/L							
Acenaphthylene	ND	0.09	1.16	"							
Anthracene	ND	0.10	1.29	"							
Benzo (a) anthracene	ND	0.09	0.92	"							
Benzo (b) fluoranthene	ND	0.14	1.43	"							
Benzo (k) fluoranthene	ND	0.12	0.85	"							
Benzo (a) pyrene	ND	0.12	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.36	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.55	1.65	"							CC-01
Chrysene	ND	0.08	0.89	"							
Dibenz (a,h) anthracene	ND	0.19	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.35	1.05	"							
2,4-Dinitrophenol	ND	1.44	4.32	"							
Di-n-octyl phthalate	ND	0.57	1.70	"							
Fluoranthene	ND	0.03	1.50	"							
Fluorene	ND	0.11	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.15	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							CC-01
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.08	0.99	"							
Pentachlorophenol	ND	1.03	3.09	"							
Phenanthrene	ND	0.09	1.20	"							
Pyrene	ND	0.16	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*7.47*			*"*	*10.0*		*74.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*3.31*			*"*	*5.00*		*66.2*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.05*			*"*	*10.0*		*50.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.71*			*"*	*5.00*		*34.2*	*10-100*			
Surrogate: Phenol-d5	*5.56*			*"*	*10.0*		*55.6*	*10-100*			*CC-03*
Surrogate: Terphenyl-dl4	*3.61*			*"*	*5.00*		*72.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24011-BS1)											
Acenaphthene	5.85	0.09	1.08	ug/L	10.0		58.5	23.3-110			
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107			
Anthracene	5.08	0.10	1.29	"	10.0		50.8	31-121			
Benzo (a) anthracene	6.05	0.09	0.92	"	10.0		60.5	28.5-120			
Benzo (b) fluoranthene	7.79	0.14	1.43	"	10.0		77.9	31.4-122			
Benzo (k) fluoranthene	6.73	0.12	0.85	"	10.0		67.3	24.6-125			
Benzo (a) pyrene	6.55	0.12	1.25	"	10.0		65.5	30.2-119			
Bis(2-ethylhexyl)phthalate	9.99	0.36	1.08	"	10.0		99.9	36.4-147			CC-03
Carbazole	9.12	2.62	7.86	"	10.0		91.2	25.1-145			
4-Chloro-3-methylphenol	7.59	0.55	1.65	"	10.0		75.9	33.8-133			
Chrysene	6.51	0.08	0.89	"	10.0		65.1	16.5-124			
Dibenz (a,h) anthracene	7.36	0.19	1.78	"	10.0		73.6	12.1-136			
Dibenzofuran	6.37	0.40	1.20	"	10.0		63.7	20.8-127			
2,4-Dimethylphenol	6.14	0.35	1.05	"	10.0		61.4	18.3-144			
2,4-Dinitrophenol	2.10	1.44	4.32	"	10.0		21.0	14.6-124			
Di-n-octyl phthalate	9.92	0.57	1.70	"	10.0		99.2	37.1-149			CC-03
Fluoranthene	5.62	0.03	1.50	"	10.0		56.2	29.2-123			
Fluorene	6.08	0.11	1.19	"	10.0		60.8	25.6-117			
Indeno (1,2,3-cd) pyrene	7.59	0.15	1.63	"	10.0		75.9	23.1-121			
2-Methylnaphthalene	6.26	0.05	1.28	"	10.0		62.6	20.8-109			
2-Methylphenol	7.21	0.41	1.24	"	10.0		72.1	27.9-113			
3 & 4-Methylphenol	16.3	1.13	3.39	"	20.0		81.5	23.5-113			
Naphthalene	6.25	0.08	0.99	"	10.0		62.5	16.7-105			
Pentachlorophenol	4.86	1.03	3.09	"	10.0		48.6	10-154			
Phenanthrene	6.51	0.09	1.20	"	10.0		65.1	22.8-123			
Pyrene	7.81	0.16	0.58	"	10.0		78.1	25.8-126			
2,4,6-Trichlorophenol	6.14	0.44	1.32	"	10.0		61.4	30-127			
1-Methylnaphthalene	4.87	0.05	1.28	"	10.0		48.7	17.2-108			
Surrogate: 2,4,6-Tribromophenol	*3.15*			"	*10.0*		*31.5*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.88*			"	*5.00*		*57.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.58*			"	*10.0*		*15.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.11*			"	*5.00*		*62.2*	*10-100*			
Surrogate: Phenol-d5	*3.31*			"	*10.0*		*33.1*	*10-100*			
Surrogate: Terphenyl-dl4	*3.42*			"	*5.00*		*68.4*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24011-BSD1)											
Acenaphthene	5.94	0.09	1.08	ug/L	10.0		59.4	23.3-110	1.53	48	
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107	0.00	74	
Anthracene	4.76	0.10	1.29	"	10.0		47.6	31-121	6.50	66	
Benzo (a) anthracene	6.44	0.09	0.92	"	10.0		64.4	28.5-120	6.24	53	
Benzo (b) fluoranthene	7.60	0.14	1.43	"	10.0		76.0	31.4-122	2.47	71	
Benzo (k) fluoranthene	7.86	0.12	0.85	"	10.0		78.6	24.6-125	15.5	63	
Benzo (a) pyrene	6.67	0.12	1.25	"	10.0		66.7	30.2-119	1.82	72	
Bis(2-ethylhexyl)phthalate	10.8	0.36	1.08	"	10.0		108	36.4-147	7.61	82	CC-03
Carbazole	8.77	2.62	7.86	"	10.0		87.7	25.1-145	3.91	40	CC-03
4-Chloro-3-methylphenol	6.99	0.55	1.65	"	10.0		69.9	33.8-133	8.23	73	
Chrysene	6.40	0.08	0.89	"	10.0		64.0	16.5-124	1.70	87	
Dibenz (a,h) anthracene	6.60	0.19	1.78	"	10.0		66.0	12.1-136	10.9	126	
Dibenzofuran	6.49	0.40	1.20	"	10.0		64.9	20.8-127	1.87	40	
2,4-Dimethylphenol	5.90	0.35	1.05	"	10.0		59.0	18.3-144	3.99	58	
2,4-Dinitrophenol	4.97	1.44	4.32	"	10.0		49.7	14.6-124	81.2	132	
Di-n-octyl phthalate	11.5	0.57	1.70	"	10.0		115	37.1-149	14.3	69	CC-03
Fluoranthene	5.33	0.03	1.50	"	10.0		53.3	29.2-123	5.30	66	
Fluorene	6.23	0.11	1.19	"	10.0		62.3	25.6-117	2.44	38	
Indeno (1,2,3-cd) pyrene	7.34	0.15	1.63	"	10.0		73.4	23.1-121	3.35	99	
2-Methylnaphthalene	5.96	0.05	1.28	"	10.0		59.6	20.8-109	4.91	40	
2-Methylphenol	7.12	0.41	1.24	"	10.0		71.2	27.9-113	1.26	40	
3 & 4-Methylphenol	17.9	1.13	3.39	"	20.0		89.5	23.5-113	9.36	40	
Naphthalene	6.33	0.08	0.99	"	10.0		63.3	16.7-105	1.27	65	
Pentachlorophenol	4.90	1.03	3.09	"	10.0		49.0	10-154	0.820	86	
Phenanthrene	6.58	0.09	1.20	"	10.0		65.8	22.8-123	1.07	39	
Pyrene	8.58	0.16	0.58	"	10.0		85.8	25.8-126	9.40	49	
2,4,6-Trichlorophenol	5.92	0.44	1.32	"	10.0		59.2	30-127	3.65	58	
1-Methylnaphthalene	4.86	0.05	1.28	"	10.0		48.6	17.2-108	0.206	40	
Surrogate: 2,4,6-Tribromophenol	*2.84*			"	*10.0*		*28.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.85*			"	*5.00*		*57.0*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.47*			"	*10.0*		*14.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.97*			"	*5.00*		*59.4*	*10-100*			
Surrogate: Phenol-d5	*2.74*			"	*10.0*		*27.4*	*10-100*			
Surrogate: Terphenyl-dl4	*3.64*			"	*5.00*		*72.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24011-DUP1)			**Source: 2303327-01**								
Acenaphthene	3.40	0.09	1.13	ug/L		2.77			20.4	45	
Acenaphthylene	ND	0.09	1.21	"		ND				45	
Anthracene	ND	0.10	1.34	"		ND				45	
Benzo (a) anthracene	ND	0.09	0.96	"		ND				45	
Benzo (b) fluoranthene	ND	0.15	1.49	"		ND				45	
Benzo (k) fluoranthene	0.59	0.13	0.89	"		1.78			100	45	P3
Benzo (a) pyrene	ND	0.13	1.30	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.13	"		ND				45	CC-01
Carbazole	ND	2.73	8.19	"		ND				45	CC-01
4-Chloro-3-methylphenol	ND	0.57	1.72	"		ND				45	
Chrysene	ND	0.08	0.93	"		ND				45	
Dibenz (a,h) anthracene	ND	0.19	1.85	"		ND				45	
Dibenzofuran	ND	0.42	1.25	"		ND				45	
2,4-Dimethylphenol	ND	0.36	1.09	"		ND				45	
2,4-Dinitrophenol	ND	1.50	4.50	"		ND				45	
Di-n-octyl phthalate	ND	0.59	1.77	"		ND				45	CC-01
Fluoranthene	1.42	0.03	1.56	"		1.61			12.5	45	
Fluorene	ND	0.11	1.24	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.15	1.70	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
2-Methylphenol	ND	0.43	1.29	"		ND				45	
3 & 4-Methylphenol	ND	1.18	3.53	"		ND				45	
Naphthalene	1.69	0.09	1.03	"		1.73			2.52	45	
Pentachlorophenol	ND	1.07	3.22	"		ND				45	
Phenanthrene	3.05	0.09	1.25	"		1.37			76.2	45	P3
Pyrene	1.40	0.16	0.60	"		1.61			14.0	45	
2,4,6-Trichlorophenol	ND	0.46	1.38	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*2.89*			*"*	*10.4*		*27.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*1.86*			*"*	*5.21*		*35.8*	*15.3-102*			
Surrogate: 2-Fluorophenol	*3.97*			*"*	*10.4*		*38.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.99*			*"*	*5.21*		*57.4*	*10-100*			
Surrogate: Phenol-d5	*3.40*			*"*	*10.4*		*32.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.08*			*"*	*5.21*		*40.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24011-MS1)		**Source: 2303327-01**									
Acenaphthene	8.78	0.09	1.13	ug/L	10.4	2.77	57.7	13.9-100			
Acenaphthylene	6.13	0.09	1.21	"	10.4	ND	58.8	24.9-100			
Anthracene	4.23	0.10	1.34	"	10.4	ND	40.6	18.9-116			
Benzo (a) anthracene	5.53	0.09	0.96	"	10.4	ND	53.1	17.8-114			
Benzo (b) fluoranthene	6.51	0.15	1.49	"	10.4	ND	62.5	10-130			
Benzo (k) fluoranthene	5.91	0.13	0.89	"	10.4	1.78	39.6	10-124			
Benzo (a) pyrene	5.27	0.13	1.30	"	10.4	ND	50.6	11.4-120			
Bis(2-ethylhexyl)phthalate	9.05	0.37	1.13	"	10.4	ND	86.9	10-158			CC-03
Carbazole	8.90	2.73	8.19	"	10.4	ND	85.4	15.3-151			CC-03
4-Chloro-3-methylphenol	5.06	0.57	1.72	"	10.4	ND	48.6	19.6-126			
Chrysene	6.26	0.08	0.93	"	10.4	ND	60.1	27.4-100			
Dibenz (a,h) anthracene	5.48	0.19	1.85	"	10.4	ND	52.6	24.3-106			
Dibenzofuran	6.43	0.42	1.25	"	10.4	ND	61.7	10-107			
2,4-Dimethylphenol	4.65	0.36	1.09	"	10.4	ND	44.6	10-141			
2,4-Dinitrophenol	4.28	1.50	4.50	"	10.4	ND	41.1	10-173			
Di-n-octyl phthalate	9.02	0.59	1.77	"	10.4	ND	86.6	45.7-114			CC-03
Fluoranthene	7.18	0.03	1.56	"	10.4	1.61	53.5	23.8-112			
Fluorene	6.92	0.11	1.24	"	10.4	ND	66.4	12.6-112			
Indeno (1,2,3-cd) pyrene	5.82	0.15	1.70	"	10.4	ND	55.9	24.7-104			
2-Methylnaphthalene	6.04	0.05	1.33	"	10.4	ND	58.0	30.6-100			
2-Methylphenol	5.85	0.43	1.29	"	10.4	ND	56.2	13-100			
3 & 4-Methylphenol	9.60	1.18	3.53	"	20.8	ND	46.1	10-100			
Naphthalene	7.40	0.09	1.03	"	10.4	1.73	54.4	14.1-100			
Pentachlorophenol	2.88	1.07	3.22	"	10.4	ND	27.6	10-155			
Phenanthrene	9.80	0.09	1.25	"	10.4	1.37	81.0	21.9-105			
Pyrene	10.2	0.16	0.60	"	10.4	1.61	82.4	10-131			
2,4,6-Trichlorophenol	4.86	0.46	1.38	"	10.4	ND	46.7	21.4-119			
1-Methylnaphthalene	4.85	0.05	1.33	"	10.4	ND	46.6	13.8-101			
Surrogate: 2,4,6-Tribromophenol	*2.54*			"	*10.4*		*24.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.48*			"	*5.21*		*47.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.96*			"	*10.4*		*57.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*4.71*			"	*5.21*		*90.4*	*10-100*			
Surrogate: Phenol-d5	*1.83*			"	*10.4*		*17.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.48*			"	*5.21*		*47.6*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C28023 - EPA 5030B											
Blank (3C28023-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.3*			"	*50.0*		*98.5*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.7*	*80.2-119*			
Surrogate: Toluene-d8	*49.2*			"	*50.0*		*98.4*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*49.6*			"	*50.0*		*99.1*	*76.1-131*			
LCS (3C28023-BS1)											
Benzene	26.5	0.258	5.00	ug/L	20.0		132	68-136			
Ethylbenzene	25.9	0.190	5.00	"	20.0		129	70.3-136			
Surrogate: Dibromofluoromethane	*50.6*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*46.6*			"	*50.0*		*93.2*	*80.2-119*			
Surrogate: Toluene-d8	*55.5*			"	*50.0*		*111*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*45.7*			"	*50.0*		*91.4*	*76.1-131*			
LCS Dup (3C28023-BSD1)											
Benzene	18.9	0.258	5.00	ug/L	20.0		94.4	68-136	33.6	30	L3
Ethylbenzene	19.0	0.190	5.00	"	20.0		95.2	70.3-136	30.5	30	L3
Surrogate: Dibromofluoromethane	*50.3*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.0*			"	*50.0*		*94.0*	*80.2-119*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*46.4*			"	*50.0*		*92.7*	*76.1-131*			
Matrix Spike (3C28023-MS1)		**Source: 2303327-04**									
Benzene	28.6	0.258	5.00	ug/L	20.0	6.15	112	68-144			
Ethylbenzene	47.6	0.190	5.00	"	20.0	28.7	94.9	69.2-134			
Surrogate: Dibromofluoromethane	*50.5*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.6*			"	*50.0*		*95.2*	*80.2-119*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*48.1*			"	*50.0*		*96.2*	*76.1-131*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C28023 - EPA 5030B											
Matrix Spike Dup (3C28023-MSD1)			**Source: 2303327-04**								
Benzene	24.0	0.258	5.00	ug/L	20.0	6.15	89.0	68-144	17.7	35	
Ethylbenzene	42.8	0.190	5.00	"	20.0	28.7	70.6	69.2-134	10.8	35	
Surrogate: Dibromofluoromethane	*50.2*			*"*	*50.0*		*100*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.0*			*"*	*50.0*		*96.0*	*80.2-119*			
Surrogate: Toluene-d8	*55.8*			*"*	*50.0*		*112*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*47.6*			*"*	*50.0*		*95.3*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/10/2023 11:57

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2023*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2023*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/10/2023 11:57

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2303355

Company Name: CAVENHAM FOREST IND.
Address: P.O BOX 15369
City: HATTIESBURG State: MS Zip: 39404
Phone: 601-544-3674
Fax: 601-544-0504

Project Manager: ETHAN ALLEN
Purchase Order #:
Email Address : EALLEN@ENV-MGT.COM
Sampler Name Printed: KALEB ATKINS
Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal
__Next Day*
__2nd Day*
__Other*_____
*All rush order requests must be prior approved.
__Phone
__Mail
__Fax
__Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR 2023
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
B-101	3-21-23/11:32	W	9	G	X	X	X	X	X	X	X
B-128	3-21-23/13:05	W	9	G	X	X	X	X	X	X	X
B-108A	3-21-23/14:20	W	9	G	X	X	X	X	X	X	X
UG-2	3-21-23/16:10	W	9	G	X	X	X	X	X	X	X
TBV7102	3-21-23/11:32	W	2								X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 11, 2023

Ethan Allen

Work Order # : 2303392

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/23/2023 08:02. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-97	2303392-01	Water	03/22/2023 14:15	*Jeff Gonsoulin*	03/23/2023 08:02
Mobile/RW-3A	2303392-02	Water	03/22/2023 15:30	*Jeff Gonsoulin*	03/23/2023 08:02
Mobile/RW-3B	2303392-03	Water	03/22/2023 15:40	*Jeff Gonsoulin*	03/23/2023 08:02
Mobile/B-36	2303392-04	Water	03/22/2023 12:00	*Jeff Gonsoulin*	03/23/2023 08:02
Trip Blank TBV#7103	2303392-05	Water	03/22/2023 12:00	*Micro Methods*	03/23/2023 08:02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Sample Receipt Conditions

Date/Time Received: 3/23/2023 8:02:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/23/2023 8:34:00AM
Cooler ID: #1135

Shipped by: Client Delivery
Submitted by: Kaleb Atkins
Logged by: Sarah E. Tomek
Receipt Temperature: -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Cooler ID: #685

Receipt Temperature: 0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/11/2023 09:27

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 04/11/2023 09:27

Volatile Organic Compounds-EPA 8260D

Qualifiers:

L3 LCS/LCSD Precision Limit exceeded.

Benzene, Ethylbenzene
3C28023-BSD1

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2-Methylphenol, 4-Chloro-3-methylphenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate
2303392-01[Mobile/B-97], 3C24011-BLK1, 2303392-04[Mobile/B-36], 3C24011-DUP1, 2303392-02[Mobile/RW-3A]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate, Indeno (1,2,3-cd) pyrene, Phenol-d5
3C24011-BS1, 3C24011-BSD1, 3C24011-MS1, 3C24010-BS1, 3C24010-BSD1, 2303392-01[Mobile/B-97], 3C24011-BLK1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene
3C24010-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Fluoranthene, Phenanthrene
3C24010-DUP1, 3C24011-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl, Terphenyl-dl4
2303392-02[Mobile/RW-3A]

SR03 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

Terphenyl-dl4
2303392-02[Mobile/RW-3A]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/11/2023 09:27

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2303392-01[Mobile/B-97], 2303392-02[Mobile/RW-3A], 2303392-03[Mobile/RW-3B], 2303392-04[Mobile/B-36], 3C24025-DUP1, 3C24025-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/B-97

2303392-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
2-Methylnaphthalene	**0.81**	0.06	0.06	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	03/31/2023 04:41	EPA 8270D	
Acenaphthylene	ND	0.01	0.07	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.57**	0.03	0.06	"	"	"	CRLV	"	"	"	
Fluorene	**0.34**	0.02	0.14	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.40**	0.02	0.07	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.07	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.19**	0.03	0.07	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.07	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.03	0.07	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.20	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.19	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0958	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.120	*50.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.132	*55.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**8.43**	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:03	Lachat 10-107-06-1-I	
Chloride	**406**	0.82	100	"	20.0	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**7.00**			pH Units	1.0	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Nitrate as N	**0.66**	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 08:30	03/24/2023 09:17	HACH 10206	
Specific Conductance (EC)	**2020**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.0172**	0.00078	0.00200	mg/L	1.0	3C24014	GWG	03/24/2023 11:00	03/27/2023 13:24	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00199**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/B-97

2303392-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.42	1.27	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/04/2023 16:44	EPA 8270D	
Carbazole	ND	3.08	9.25	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.65	1.94	"	"	"	CRLV	"	"	"	CC-01
Chrysene	**1.16**	0.09	1.05	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.47	1.41	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.41	1.24	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.69	5.08	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.67	2.00	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.49	1.46	"	"	"	CRLV	"	"	"	CC-01
3 & 4-Methylphenol	ND	1.33	3.99	"	"	"	CRLV	"	"	"	
Naphthalene	**1.20**	0.10	1.16	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.18	1.18	"	"	"	CRLV	"	"	"	
Pyrene	**0.76**	0.19	0.68	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.52	1.55	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.06	1.51	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	9.08	*77.2 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	3.36	*57.2 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	5.21	*44.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.00	*34.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	5.78	*49.1 %*	*10-100*	"	CRLV	"	"	"	*CC-03*
Terphenyl-dl4	3.48	*59.2 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 18:14	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.1	*92.2 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.3	*90.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.0	*106 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.7	*91.4 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/RW-3A

2303392-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Dibenz (a,h) anthracene	**306**	35.7	163	ug/L	1000.0	3C24010	CRLV	03/27/2023 10:31	03/31/2023 08:52	EPA 8270D	
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2-Fluorobiphenyl	0.00	*%*	*11.7-131*			"	CRLV	"	*03/31/2023 17:14*	"	*SR01*
Nitrobenzene-d5	0.102	*50.0 %*	*19.6-113*			"	CRLV	"	*03/31/2023 17:55*	"	
Terphenyl-dl4	0.00	*%*	*11.3-166*			"	CRLV	"	*03/31/2023 17:14*	"	*SR01*
Classical Chemistry Parameters											
Ammonia as N	**7.36**	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:04	Lachat 10-107-06-1-I	
Chloride	**49.4**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**9.70**			pH Units	"	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Specific Conductance (EC)	**977**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Nitrate as N	**1.37**	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 08:30	03/24/2023 09:17	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00848**	0.00078	0.00200	mg/L	1.0	3C24014	GWG	03/24/2023 11:00	03/27/2023 13:38	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00140**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00234**	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/RW-3A

2303392-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**3120**	95.7	1170	ug/L	1000.0	3C24011	CRLV	03/24/2023 10:54	04/04/2023 17:19	EPA 8270D	
Acenaphthylene	**66.2**	0.98	12.6	"	10.0	"	CRLV	"	04/06/2023 14:34	"	
Anthracene	**609**	10.8	140	"	100.0	"	CRLV	"	04/04/2023 17:54	"	
Benzo (a) anthracene	**2820**	93.5	1000	"	1000.0	"	CRLV	"	04/04/2023 17:19	"	
Benzo (b) fluoranthene	**2740**	153	1550	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**3770**	130	924	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**1760**	132	1360	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**18.5**	3.90	11.7	"	10.0	"	CRLV	"	04/06/2023 14:34	"	
Carbazole	**61.2**	21.7	54.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.60	1.79	"	1.0	"	CRLV	"	04/06/2023 15:09	"	
Chrysene	**2480**	84.8	967	"	1000.0	"	CRLV	"	04/04/2023 17:19	"	
Dibenzofuran	**1650**	434	1300	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**9.54**	0.38	1.14	"	1.0	"	CRLV	"	04/06/2023 15:09	"	
2,4-Dinitrophenol	ND	1.57	4.70	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	6.17	18.5	"	10.0	"	CRLV	"	04/06/2023 14:34	"	CC-01
Fluoranthene	**7730**	27.9	1630	"	1000.0	"	CRLV	"	04/04/2023 17:19	"	
Fluorene	**3460**	116	1290	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**205**	15.9	177	"	100.0	"	CRLV	"	04/04/2023 17:54	"	
2-Methylnaphthalene	**713**	5.43	139	"	"	"	CRLV	"	"	"	
2-Methylphenol	**3.08**	0.45	1.35	"	1.0	"	CRLV	"	04/06/2023 15:09	"	
3 & 4-Methylphenol	**9.58**	1.23	3.68	"	"	"	CRLV	"	"	"	
Naphthalene	**1200**	91.3	1080	"	1000.0	"	CRLV	"	04/04/2023 17:19	"	
Pentachlorophenol	ND	10.9	10.9	"	10.0	"	CRLV	"	04/06/2023 14:34	"	
Phenanthrene	**9740**	98.9	1300	"	1000.0	"	CRLV	"	04/04/2023 17:19	"	
Pyrene	**5730**	172	630	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.48	1.43	"	1.0	"	CRLV	"	04/06/2023 15:09	"	
1-Methylnaphthalene	**354**	5.43	139	"	100.0	"	CRLV	"	04/04/2023 17:54	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	4.30	*39.6 %*	*19.2-121*	"	CRLV	"	*04/06/2023 15:09*	"	
2-Fluorobiphenyl	2.50	*46.0 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	1.85	*17.0 %*	*10-100*	"	CRLV	"	*04/06/2023 14:34*	"	
Nitrobenzene-d5	2.32	*42.6 %*	*10-100*	"	CRLV	"	*04/06/2023 15:09*	"	
Phenol-d5	1.32	*12.1 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	29.6	*544 %*	*10-100*	"	CRLV	"	*04/06/2023 14:34*	"	*SR03*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/RW-3A

2303392-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**6.60**	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 18:38	EPA 8260D	
Ethylbenzene	**11.7**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.2	*92.4 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.8	*93.7 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.0	*106 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.6	*93.1 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/RW-3B

2303392-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Acenaphthylene	**0.51**	0.01	0.06	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	03/31/2023 08:10	EPA 8270D	
Dibenz (a,h) anthracene	**0.62**	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0714	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.122	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.133	*65.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.46**	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:05	Lachat 10-107-06-1-I	
Chloride	**17.8**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**7.32**			pH Units	"	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 08:30	03/24/2023 09:17	HACH 10206	
Specific Conductance (EC)	**265**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C24014	GWG	03/24/2023 11:00	03/27/2023 13:42	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/RW-3B

2303392-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**33.8**	0.89	11.0	ug/L	10.0	3C24011	CRLV	03/24/2023 10:54	04/04/2023 23:50	EPA 8270D	
Anthracene	**4.53**	0.10	1.31	"	1.0	"	CRLV	"	04/05/2023 03:23	"	
Benzo (a) anthracene	**152**	8.73	93.4	"	100.0	"	CRLV	"	04/04/2023 23:14	"	
Benzo (b) fluoranthene	**157**	14.3	145	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**219**	12.2	86.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**12.7**	1.23	12.7	"	10.0	"	CRLV	"	04/04/2023 23:50	"	
Bis(2-ethylhexyl)phthalate	ND	0.36	1.10	"	1.0	"	CRLV	"	04/05/2023 03:23	"	
Carbazole	ND	2.66	7.98	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Chrysene	**139**	7.92	90.4	"	100.0	"	CRLV	"	04/04/2023 23:14	"	
Dibenzofuran	**16.5**	4.05	12.2	"	10.0	"	CRLV	"	04/04/2023 23:50	"	
2,4-Dimethylphenol	ND	0.35	1.07	"	1.0	"	CRLV	"	04/05/2023 03:23	"	
2,4-Dinitrophenol	ND	1.46	4.39	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	
Fluoranthene	**27.5**	0.26	15.2	"	10.0	"	CRLV	"	04/04/2023 23:50	"	
Fluorene	**26.1**	1.09	12.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**1.59**	0.15	1.52	"	1.0	"	CRLV	"	04/05/2023 03:23	"	
2-Methylnaphthalene	**10.9**	0.05	1.30	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.44	"	"	"	CRLV	"	"	"	
Naphthalene	**18.8**	0.85	10.1	"	10.0	"	CRLV	"	04/04/2023 23:50	"	
Pentachlorophenol	ND	1.02	1.02	"	1.0	"	CRLV	"	04/05/2023 03:23	"	
Phenanthrene	**31.5**	0.92	12.2	"	10.0	"	CRLV	"	04/04/2023 23:50	"	
Pyrene	**78.2**	16.0	58.9	"	100.0	"	CRLV	"	04/04/2023 23:14	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	1.0	"	CRLV	"	04/05/2023 03:23	"	
1-Methylnaphthalene	**6.86**	0.05	1.30	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	4.97	*49.0 %*	*19.2-121*	"	CRLV	"	*04/04/2023 23:50*	"	
2-Fluorobiphenyl	2.74	*54.0 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	4.64	*45.7 %*	*10-100*	"	CRLV	"	*04/05/2023 03:23*	"	
Nitrobenzene-d5	1.83	*36.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	4.93	*48.6 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.55	*70.0 %*	*10-100*	"	CRLV	"	*04/04/2023 23:50*	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/RW-3B

2303392-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 19:01	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.8	*91.7 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.4	*90.8 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.2	*106 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	44.6	*89.3 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/B-36

2303392-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.23**	0.02	0.16	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 03:41	EPA 8270D	
2-Methylnaphthalene	**0.07**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.12**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.12**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.26**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.08**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.25**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.23**	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0628	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.105	*50.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.0838	*40.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:06	Lachat 10-107-06-1-I	
Chloride	**83.0**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**5.19**			pH Units	"	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Specific Conductance (EC)	**400**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Nitrate as N	**2.58**	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 08:30	03/24/2023 09:17	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C24014	GWG	03/24/2023 11:00	03/27/2023 13:46	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Mobile/B-36

2303392-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.38	1.13	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/03/2023 02:31	EPA 8270D	CC-01
Carbazole	ND	2.74	8.23	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.57	1.73	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.37	1.10	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.51	4.52	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.59	1.78	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.43	1.30	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.18	3.55	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.05	1.05	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.38	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.34	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	3.19	*30.5 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.96	*56.6 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	1.94	*18.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.92	*36.6 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	8.43	*80.5 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	2.79	*53.2 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 19:25	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.3	*92.5 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.8	*93.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	52.7	*105 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.7	*91.5 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/11/2023 09:27

Trip Blank TBV#7103

2303392-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3C28023	BSF	03/24/2023 08:00	03/24/2023 19:48	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.3	*92.6 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.9	*91.7 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	53.5	*107 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.4	*90.7 %*	*76.1-131*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24010-BLK1)											
Naphthalene	ND	0.02	0.15	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.110*			"	*0.200*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24010-BS1)											
Naphthalene	0.22	0.02	0.15	ug/L	0.200		110	10-145			
2-Methylnaphthalene	0.14	0.05	0.05	"	0.200		70.0	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.13	0.02	0.05	"	0.200		65.0	10-143			
Fluorene	0.18	0.02	0.12	"	0.200		90.0	10-150			
Phenanthrene	0.25	0.02	0.06	"	0.200		125	10-151			
Anthracene	0.15	0.02	0.06	"	0.200		75.0	10-130			
Fluoranthene	0.24	0.03	0.06	"	0.200		120	10-155			
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148			
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141			
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150			
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160			
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159			
Benzo (a) pyrene	0.19	0.02	0.06	"	0.200		95.0	10-177			
Indeno (1,2,3-cd) pyrene	0.26	0.02	0.17	"	0.200		130	10.7-171			CC-03
Dibenz (a,h) anthracene	0.18	0.04	0.16	"	0.200		90.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.130*			"	*0.200*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24010-BSD1)											
Naphthalene	0.23	0.02	0.15	ug/L	0.200		115	10-145	4.44	40	
2-Methylnaphthalene	0.15	0.05	0.05	"	0.200		75.0	50-150	6.90	40	
Acenaphthylene	0.15	0.01	0.06	"	0.200		75.0	10-147	6.90	40	
Acenaphthene	0.16	0.02	0.05	"	0.200		80.0	10-143	20.7	40	
Fluorene	0.20	0.02	0.12	"	0.200		100	10-150	10.5	40	
Phenanthrene	0.30	0.02	0.06	"	0.200		150	10-151	18.2	40	
Anthracene	0.16	0.02	0.06	"	0.200		80.0	10-130	6.45	40	
Fluoranthene	0.28	0.03	0.06	"	0.200		140	10-155	15.4	40	
Pyrene	0.18	0.02	0.05	"	0.200		90.0	10-148	5.41	40	
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141	0.00	40	
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150	0.00	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	0.00	40	
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159	0.00	40	
Benzo (a) pyrene	0.18	0.02	0.06	"	0.200		90.0	10-177	5.41	40	
Indeno (1,2,3-cd) pyrene	0.24	0.02	0.17	"	0.200		120	10.7-171	8.00	40	CC-03
Dibenz (a,h) anthracene	0.17	0.04	0.16	"	0.200		85.0	16-164	5.71	40	
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.120*			"	*0.200*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24010-DUP1)			**Source: 2303327-02**								
Naphthalene	446	22.5	155	ug/L		392			12.9	45	
2-Methylnaphthalene	49.7	5.18	5.18	"		47.4			4.77	45	
Acenaphthylene	1.24	0.12	0.62	"		1.34			7.48	45	
Acenaphthene	218	22.5	51.8	"		216			0.517	45	
Fluorene	96.4	1.74	12.4	"		95.9			0.517	45	
Phenanthrene	383	15.9	62.2	"		423			9.74	45	
Anthracene	31.1	1.59	6.22	"		29.9			3.91	45	
Fluoranthene	99.5	2.66	6.22	"		237			81.8	45	P3
Pyrene	46.6	1.74	5.18	"		52.6			12.0	45	
Benzo (a) anthracene	7.05	0.26	0.62	"		16.5			80.3	45	P3
Chrysene	5.70	0.31	0.52	"		9.79			52.9	45	P3
Benzo (b) fluoranthene	3.83	0.27	0.52	"		13.4			111	45	P3
Benzo (k) fluoranthene	0.81	0.03	0.05	"		1.34			49.5	45	P3
Benzo (a) pyrene	1.55	0.22	0.62	"		2.58			49.5	45	P3
Indeno (1,2,3-cd) pyrene	0.41	0.03	0.18	"		0.65			44.2	45	
Dibenz (a,h) anthracene	0.17	0.04	0.17	"		0.26			43.4	45	
Surrogate: 2-Fluorobiphenyl	*0.0725*			"	*0.207*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.135*			"	*0.207*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.207*		*75.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24010-MS1)		**Source: 2303327-02**									
Naphthalene	361	22.4	155	ug/L	0.206	392	NR	10-182			M5
2-Methylnaphthalene	43.3	5.15	5.15	"	0.206	47.4	NR	0-200			M5
Acenaphthylene	1.24	0.12	0.62	"	0.206	1.34	NR	10-200			M5
Acenaphthene	186	22.4	51.5	"	0.206	216	NR	10-200			M5
Fluorene	155	17.3	124	"	0.206	95.9	NR	10-200			M5
Phenanthrene	330	15.8	61.9	"	0.206	423	NR	46.3-156			M5
Anthracene	61.9	15.8	61.9	"	0.206	29.9	NR	12.9-149			M5
Fluoranthene	186	26.5	61.9	"	0.206	237	NR	10-200			M5
Pyrene	82.5	17.3	51.5	"	0.206	52.6	NR	10-191			M5
Benzo (a) anthracene	7.94	0.25	0.62	"	0.206	16.5	NR	19.3-191			M5
Chrysene	6.39	0.31	0.52	"	0.206	9.79	NR	16.5-166			M5
Benzo (b) fluoranthene	4.23	0.26	0.52	"	0.206	13.4	NR	17.3-163			M5
Benzo (k) fluoranthene	0.95	0.03	0.05	"	0.206	1.34	NR	23.7-152			M5
Benzo (a) pyrene	1.96	0.22	0.62	"	0.206	2.58	NR	10-200			M5
Indeno (1,2,3-cd) pyrene	0.49	0.03	0.18	"	0.206	0.65	NR	10-189			M5
Dibenz (a,h) anthracene	0.25	0.04	0.16	"	0.206	0.26	NR	51.1-147			M5
Surrogate: 2-Fluorobiphenyl	*0.0722*			"	*0.206*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.113*			"	*0.206*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.206*		*75.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24004 - Default Prep GenChem											
Blank (3C24004-BLK1)											
Nitrate as N	ND	0.10	0.50	mg/L							
LCS (3C24004-BS1)											
Nitrate as N	10.6	0.10	0.50	mg/L	10.0		106	90-110			
LCS Dup (3C24004-BSD1)											
Nitrate as N	10.5	0.10	0.50	mg/L	10.0		105	90-110	0.948	20	
Duplicate (3C24004-DUP1)			**Source: 2303392-04**								
Nitrate as N	2.56	0.10	0.50	mg/L		2.58			0.778	20	
Matrix Spike (3C24004-MS1)			**Source: 2303392-04**								
Nitrate as N	6.59	0.10	0.50	mg/L	4.00	2.58	100	90-110			
Matrix Spike Dup (3C24004-MSD1)			**Source: 2303392-04**								
Nitrate as N	6.58	0.10	0.50	mg/L	4.00	2.58	100	90-110	0.152	20	
Batch 3C24023 - Default Prep GenChem											
LCS (3C24023-BS1)											
Specific Conductance (EC)	1410			uS/cm	1410		100	90.1-113			
LCS (3C24023-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3C24023-DUP1)			**Source: 2303392-04**								
Specific Conductance (EC)	399			umhos/cm @25.0 C		400			0.275	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24023 - Default Prep GenChem											
Duplicate (3C24023-DUP2)			**Source: 2303414-05**								
Specific Conductance (EC)	184			umhos/cm @25.0 C		185			0.325	20	
Batch 3C24025 - Default Prep GenChem											
Duplicate (3C24025-DUP1)			**Source: 2303392-04**								**HT-02**
pH	5.20			pH Units		5.19			0.192	5	
Duplicate (3C24025-DUP2)			**Source: 2303414-05**								**HT-02**
pH	5.88			pH Units		5.87			0.170	5	
Batch 3C27032 - Default Prep GenChem											
Blank (3C27032-BLK1)											
Chloride	ND	0.04	5.00	mg/L							
LCS (3C27032-BS1)											
Chloride	25.0	0.04	5.00	mg/L	25.0		100	85-115			
LCS Dup (3C27032-BSD1)											
Chloride	25.3	0.04	5.00	mg/L	25.0		101	85-115	1.19	30	
Duplicate (3C27032-DUP1)			**Source: 2303355-04**								
Chloride	5.47	0.04	5.00	mg/L		5.39			1.47	20	
Duplicate (3C27032-DUP2)			**Source: 2303415-06**								
Chloride	13.2	0.04	5.00	mg/L		13.3			0.755	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27032 - Default Prep GenChem											
Matrix Spike (3C27032-MS1)			**Source: 2303355-04**								
Chloride	26.5	0.04	5.00	mg/L	20.0	5.39	106	70-130			
Matrix Spike Dup (3C27032-MSD1)			**Source: 2303355-04**								
Chloride	26.6	0.04	5.00	mg/L	20.0	5.39	106	70-130	0.377	20	
Batch 3C29014 - Default Prep GenChem											
Blank (3C29014-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3C29014-BS1)											
Ammonia as N	4.93	0.04	0.21	mg/L	5.00		98.6	90-110			
LCS Dup (3C29014-BSD1)											
Ammonia as N	4.92	0.04	0.21	mg/L	5.00		98.4	90-110	0.203	10	
Matrix Spike (3C29014-MS1)			**Source: 2303403-01**								
Ammonia as N	4.87	0.04	0.21	mg/L	5.00	0.10	95.5	90-110			
Matrix Spike Dup (3C29014-MSD1)			**Source: 2303403-01**								
Ammonia as N	4.86	0.04	0.21	mg/L	5.00	0.10	95.3	90-110	0.206	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24014 - EPA 200.2 DCN 1017 Rev 10											
Blank (3C24014-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3C24014-BS1)											
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100		103	85-115			
Chromium [He]	0.105	0.00016	0.00100	"	0.100		105	85-115			
Lead [He]	0.104	0.00022	0.00100	"	0.100		104	85-115			
Nickel [He]	0.103	0.00035	0.0400	"	0.100		103	85-115			
LCS Dup (3C24014-BSD1)											
Arsenic [He]	0.100	0.00078	0.00200	mg/L	0.100		100	85-115	2.54	20	
Chromium [He]	0.104	0.00016	0.00100	"	0.100		104	85-115	1.01	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100		103	85-115	1.66	20	
Nickel [He]	0.101	0.00035	0.0400	"	0.100		101	85-115	1.85	20	
Matrix Spike (3C24014-MS1)			**Source: 2303385-02**								
Arsenic [He]	0.110	0.00078	0.00200	mg/L	0.100	0.014	96.0	70-130			
Chromium [He]	0.100	0.00016	0.00100	"	0.100	0.005	95.0	70-130			
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130			
Nickel [He]	0.115	0.00035	0.0400	"	0.100	0.026	89.3	70-130			
Matrix Spike Dup (3C24014-MSD1)			**Source: 2303385-02**								
Arsenic [He]	0.110	0.00078	0.00200	mg/L	0.100	0.014	96.6	70-130	0.548	20	
Chromium [He]	0.100	0.00016	0.00100	"	0.100	0.005	95.0	70-130	0.0135	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130	0.572	20	
Nickel [He]	0.116	0.00035	0.0400	"	0.100	0.026	90.0	70-130	0.591	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24011-BLK1)											
Acenaphthene	ND	0.09	1.08	ug/L							
Acenaphthylene	ND	0.09	1.16	"							
Anthracene	ND	0.10	1.29	"							
Benzo (a) anthracene	ND	0.09	0.92	"							
Benzo (b) fluoranthene	ND	0.14	1.43	"							
Benzo (k) fluoranthene	ND	0.12	0.85	"							
Benzo (a) pyrene	ND	0.12	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.36	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.55	1.65	"							CC-01
Chrysene	ND	0.08	0.89	"							
Dibenz (a,h) anthracene	ND	0.19	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.35	1.05	"							
2,4-Dinitrophenol	ND	1.44	4.32	"							
Di-n-octyl phthalate	ND	0.57	1.70	"							
Fluoranthene	ND	0.03	1.50	"							
Fluorene	ND	0.11	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.15	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							CC-01
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.08	0.99	"							
Pentachlorophenol	ND	1.03	3.09	"							
Phenanthrene	ND	0.09	1.20	"							
Pyrene	ND	0.16	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*7.47*			*"*	*10.0*		*74.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*3.31*			*"*	*5.00*		*66.2*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.05*			*"*	*10.0*		*50.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.71*			*"*	*5.00*		*34.2*	*10-100*			
Surrogate: Phenol-d5	*5.56*			*"*	*10.0*		*55.6*	*10-100*			*CC-03*
Surrogate: Terphenyl-dl4	*3.61*			*"*	*5.00*		*72.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24011-BS1)											
Acenaphthene	5.85	0.09	1.08	ug/L	10.0		58.5	23.3-110			
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107			
Anthracene	5.08	0.10	1.29	"	10.0		50.8	31-121			
Benzo (a) anthracene	6.05	0.09	0.92	"	10.0		60.5	28.5-120			
Benzo (b) fluoranthene	7.79	0.14	1.43	"	10.0		77.9	31.4-122			
Benzo (k) fluoranthene	6.73	0.12	0.85	"	10.0		67.3	24.6-125			
Benzo (a) pyrene	6.55	0.12	1.25	"	10.0		65.5	30.2-119			
Bis(2-ethylhexyl)phthalate	9.99	0.36	1.08	"	10.0		99.9	36.4-147			CC-03
Carbazole	9.12	2.62	7.86	"	10.0		91.2	25.1-145			
4-Chloro-3-methylphenol	7.59	0.55	1.65	"	10.0		75.9	33.8-133			
Chrysene	6.51	0.08	0.89	"	10.0		65.1	16.5-124			
Dibenz (a,h) anthracene	7.36	0.19	1.78	"	10.0		73.6	12.1-136			
Dibenzofuran	6.37	0.40	1.20	"	10.0		63.7	20.8-127			
2,4-Dimethylphenol	6.14	0.35	1.05	"	10.0		61.4	18.3-144			
2,4-Dinitrophenol	2.10	1.44	4.32	"	10.0		21.0	14.6-124			
Di-n-octyl phthalate	9.92	0.57	1.70	"	10.0		99.2	37.1-149			CC-03
Fluoranthene	5.62	0.03	1.50	"	10.0		56.2	29.2-123			
Fluorene	6.08	0.11	1.19	"	10.0		60.8	25.6-117			
Indeno (1,2,3-cd) pyrene	7.59	0.15	1.63	"	10.0		75.9	23.1-121			
2-Methylnaphthalene	6.26	0.05	1.28	"	10.0		62.6	20.8-109			
2-Methylphenol	7.21	0.41	1.24	"	10.0		72.1	27.9-113			
3 & 4-Methylphenol	16.3	1.13	3.39	"	20.0		81.5	23.5-113			
Naphthalene	6.25	0.08	0.99	"	10.0		62.5	16.7-105			
Pentachlorophenol	4.86	1.03	3.09	"	10.0		48.6	10-154			
Phenanthrene	6.51	0.09	1.20	"	10.0		65.1	22.8-123			
Pyrene	7.81	0.16	0.58	"	10.0		78.1	25.8-126			
2,4,6-Trichlorophenol	6.14	0.44	1.32	"	10.0		61.4	30-127			
1-Methylnaphthalene	4.87	0.05	1.28	"	10.0		48.7	17.2-108			
Surrogate: 2,4,6-Tribromophenol	*3.15*			"	*10.0*		*31.5*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.88*			"	*5.00*		*57.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.58*			"	*10.0*		*15.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.11*			"	*5.00*		*62.2*	*10-100*			
Surrogate: Phenol-d5	*3.31*			"	*10.0*		*33.1*	*10-100*			
Surrogate: Terphenyl-dl4	*3.42*			"	*5.00*		*68.4*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24011-BSD1)											
Acenaphthene	5.94	0.09	1.08	ug/L	10.0		59.4	23.3-110	1.53	48	
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107	0.00	74	
Anthracene	4.76	0.10	1.29	"	10.0		47.6	31-121	6.50	66	
Benzo (a) anthracene	6.44	0.09	0.92	"	10.0		64.4	28.5-120	6.24	53	
Benzo (b) fluoranthene	7.60	0.14	1.43	"	10.0		76.0	31.4-122	2.47	71	
Benzo (k) fluoranthene	7.86	0.12	0.85	"	10.0		78.6	24.6-125	15.5	63	
Benzo (a) pyrene	6.67	0.12	1.25	"	10.0		66.7	30.2-119	1.82	72	
Bis(2-ethylhexyl)phthalate	10.8	0.36	1.08	"	10.0		108	36.4-147	7.61	82	CC-03
Carbazole	8.77	2.62	7.86	"	10.0		87.7	25.1-145	3.91	40	CC-03
4-Chloro-3-methylphenol	6.99	0.55	1.65	"	10.0		69.9	33.8-133	8.23	73	
Chrysene	6.40	0.08	0.89	"	10.0		64.0	16.5-124	1.70	87	
Dibenz (a,h) anthracene	6.60	0.19	1.78	"	10.0		66.0	12.1-136	10.9	126	
Dibenzofuran	6.49	0.40	1.20	"	10.0		64.9	20.8-127	1.87	40	
2,4-Dimethylphenol	5.90	0.35	1.05	"	10.0		59.0	18.3-144	3.99	58	
2,4-Dinitrophenol	4.97	1.44	4.32	"	10.0		49.7	14.6-124	81.2	132	
Di-n-octyl phthalate	11.5	0.57	1.70	"	10.0		115	37.1-149	14.3	69	CC-03
Fluoranthene	5.33	0.03	1.50	"	10.0		53.3	29.2-123	5.30	66	
Fluorene	6.23	0.11	1.19	"	10.0		62.3	25.6-117	2.44	38	
Indeno (1,2,3-cd) pyrene	7.34	0.15	1.63	"	10.0		73.4	23.1-121	3.35	99	
2-Methylnaphthalene	5.96	0.05	1.28	"	10.0		59.6	20.8-109	4.91	40	
2-Methylphenol	7.12	0.41	1.24	"	10.0		71.2	27.9-113	1.26	40	
3 & 4-Methylphenol	17.9	1.13	3.39	"	20.0		89.5	23.5-113	9.36	40	
Naphthalene	6.33	0.08	0.99	"	10.0		63.3	16.7-105	1.27	65	
Pentachlorophenol	4.90	1.03	3.09	"	10.0		49.0	10-154	0.820	86	
Phenanthrene	6.58	0.09	1.20	"	10.0		65.8	22.8-123	1.07	39	
Pyrene	8.58	0.16	0.58	"	10.0		85.8	25.8-126	9.40	49	
2,4,6-Trichlorophenol	5.92	0.44	1.32	"	10.0		59.2	30-127	3.65	58	
1-Methylnaphthalene	4.86	0.05	1.28	"	10.0		48.6	17.2-108	0.206	40	
Surrogate: 2,4,6-Tribromophenol	*2.84*			"	*10.0*		*28.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.85*			"	*5.00*		*57.0*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.47*			"	*10.0*		*14.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.97*			"	*5.00*		*59.4*	*10-100*			
Surrogate: Phenol-d5	*2.74*			"	*10.0*		*27.4*	*10-100*			
Surrogate: Terphenyl-dl4	*3.64*			"	*5.00*		*72.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24011-DUP1)			**Source: 2303327-01**								
Acenaphthene	3.40	0.09	1.13	ug/L		2.77			20.4	45	
Acenaphthylene	ND	0.09	1.21	"		ND				45	
Anthracene	ND	0.10	1.34	"		ND				45	
Benzo (a) anthracene	ND	0.09	0.96	"		ND				45	
Benzo (b) fluoranthene	ND	0.15	1.49	"		ND				45	
Benzo (k) fluoranthene	0.59	0.13	0.89	"		1.78			100	45	P3
Benzo (a) pyrene	ND	0.13	1.30	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.13	"		ND				45	CC-01
Carbazole	ND	2.73	8.19	"		ND				45	CC-01
4-Chloro-3-methylphenol	ND	0.57	1.72	"		ND				45	
Chrysene	ND	0.08	0.93	"		ND				45	
Dibenz (a,h) anthracene	ND	0.19	1.85	"		ND				45	
Dibenzofuran	ND	0.42	1.25	"		ND				45	
2,4-Dimethylphenol	ND	0.36	1.09	"		ND				45	
2,4-Dinitrophenol	ND	1.50	4.50	"		ND				45	
Di-n-octyl phthalate	ND	0.59	1.77	"		ND				45	CC-01
Fluoranthene	1.42	0.03	1.56	"		1.61			12.5	45	
Fluorene	ND	0.11	1.24	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.15	1.70	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
2-Methylphenol	ND	0.43	1.29	"		ND				45	
3 & 4-Methylphenol	ND	1.18	3.53	"		ND				45	
Naphthalene	1.69	0.09	1.03	"		1.73			2.52	45	
Pentachlorophenol	ND	1.07	3.22	"		ND				45	
Phenanthrene	3.05	0.09	1.25	"		1.37			76.2	45	P3
Pyrene	1.40	0.16	0.60	"		1.61			14.0	45	
2,4,6-Trichlorophenol	ND	0.46	1.38	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*2.89*			"	*10.4*		*27.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*1.86*			"	*5.21*		*35.8*	*15.3-102*			
Surrogate: 2-Fluorophenol	*3.97*			"	*10.4*		*38.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.99*			"	*5.21*		*57.4*	*10-100*			
Surrogate: Phenol-d5	*3.40*			"	*10.4*		*32.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.08*			"	*5.21*		*40.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24011-MS1)		**Source: 2303327-01**									
Acenaphthene	8.78	0.09	1.13	ug/L	10.4	2.77	57.7	13.9-100			
Acenaphthylene	6.13	0.09	1.21	"	10.4	ND	58.8	24.9-100			
Anthracene	4.23	0.10	1.34	"	10.4	ND	40.6	18.9-116			
Benzo (a) anthracene	5.53	0.09	0.96	"	10.4	ND	53.1	17.8-114			
Benzo (b) fluoranthene	6.51	0.15	1.49	"	10.4	ND	62.5	10-130			
Benzo (k) fluoranthene	5.91	0.13	0.89	"	10.4	1.78	39.6	10-124			
Benzo (a) pyrene	5.27	0.13	1.30	"	10.4	ND	50.6	11.4-120			
Bis(2-ethylhexyl)phthalate	9.05	0.37	1.13	"	10.4	ND	86.9	10-158			CC-03
Carbazole	8.90	2.73	8.19	"	10.4	ND	85.4	15.3-151			CC-03
4-Chloro-3-methylphenol	5.06	0.57	1.72	"	10.4	ND	48.6	19.6-126			
Chrysene	6.26	0.08	0.93	"	10.4	ND	60.1	27.4-100			
Dibenz (a,h) anthracene	5.48	0.19	1.85	"	10.4	ND	52.6	24.3-106			
Dibenzofuran	6.43	0.42	1.25	"	10.4	ND	61.7	10-107			
2,4-Dimethylphenol	4.65	0.36	1.09	"	10.4	ND	44.6	10-141			
2,4-Dinitrophenol	4.28	1.50	4.50	"	10.4	ND	41.1	10-173			
Di-n-octyl phthalate	9.02	0.59	1.77	"	10.4	ND	86.6	45.7-114			CC-03
Fluoranthene	7.18	0.03	1.56	"	10.4	1.61	53.5	23.8-112			
Fluorene	6.92	0.11	1.24	"	10.4	ND	66.4	12.6-112			
Indeno (1,2,3-cd) pyrene	5.82	0.15	1.70	"	10.4	ND	55.9	24.7-104			
2-Methylnaphthalene	6.04	0.05	1.33	"	10.4	ND	58.0	30.6-100			
2-Methylphenol	5.85	0.43	1.29	"	10.4	ND	56.2	13-100			
3 & 4-Methylphenol	9.60	1.18	3.53	"	20.8	ND	46.1	10-100			
Naphthalene	7.40	0.09	1.03	"	10.4	1.73	54.4	14.1-100			
Pentachlorophenol	2.88	1.07	3.22	"	10.4	ND	27.6	10-155			
Phenanthrene	9.80	0.09	1.25	"	10.4	1.37	81.0	21.9-105			
Pyrene	10.2	0.16	0.60	"	10.4	1.61	82.4	10-131			
2,4,6-Trichlorophenol	4.86	0.46	1.38	"	10.4	ND	46.7	21.4-119			
1-Methylnaphthalene	4.85	0.05	1.33	"	10.4	ND	46.6	13.8-101			
Surrogate: 2,4,6-Tribromophenol	*2.54*			"	*10.4*		*24.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.48*			"	*5.21*		*47.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.96*			"	*10.4*		*57.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*4.71*			"	*5.21*		*90.4*	*10-100*			
Surrogate: Phenol-d5	*1.83*			"	*10.4*		*17.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.48*			"	*5.21*		*47.6*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C28023 - EPA 5030B											
Blank (3C28023-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.3*			"	*50.0*		*98.5*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.7*	*80.2-119*			
Surrogate: Toluene-d8	*49.2*			"	*50.0*		*98.4*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*49.6*			"	*50.0*		*99.1*	*76.1-131*			
LCS (3C28023-BS1)											
Benzene	26.5	0.258	5.00	ug/L	20.0		132	68-136			
Ethylbenzene	25.9	0.190	5.00	"	20.0		129	70.3-136			
Surrogate: Dibromofluoromethane	*50.6*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*46.6*			"	*50.0*		*93.2*	*80.2-119*			
Surrogate: Toluene-d8	*55.5*			"	*50.0*		*111*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*45.7*			"	*50.0*		*91.4*	*76.1-131*			
LCS Dup (3C28023-BSD1)											
Benzene	18.9	0.258	5.00	ug/L	20.0		94.4	68-136	33.6	30	L3
Ethylbenzene	19.0	0.190	5.00	"	20.0		95.2	70.3-136	30.5	30	L3
Surrogate: Dibromofluoromethane	*50.3*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.0*			"	*50.0*		*94.0*	*80.2-119*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*46.4*			"	*50.0*		*92.7*	*76.1-131*			
Matrix Spike (3C28023-MS1)		**Source: 2303327-04**									
Benzene	28.6	0.258	5.00	ug/L	20.0	6.15	112	68-144			
Ethylbenzene	47.6	0.190	5.00	"	20.0	28.7	94.9	69.2-134			
Surrogate: Dibromofluoromethane	*50.5*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.6*			"	*50.0*		*95.2*	*80.2-119*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*48.1*			"	*50.0*		*96.2*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C28023 - EPA 5030B											
Matrix Spike Dup (3C28023-MSD1)			**Source: 2303327-04**								
Benzene	24.0	0.258	5.00	ug/L	20.0	6.15	89.0	68-144	17.7	35	
Ethylbenzene	42.8	0.190	5.00	"	20.0	28.7	70.6	69.2-134	10.8	35	
Surrogate: Dibromofluoromethane	*50.2*			*"*	*50.0*		*100*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.0*			*"*	*50.0*		*96.0*	*80.2-119*			
Surrogate: Toluene-d8	*55.8*			*"*	*50.0*		*112*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*47.6*			*"*	*50.0*		*95.3*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/11/2023 09:27

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2023*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2023*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/11/2023 09:27

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2303392

Company Name: CAVENHAM FOREST IND	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR 2023
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
B-97	3-22-23/14:15	W	9	G	X	X	X	X	X	X	X
RW-3A	3-22-23/15:30	W	9	G	X	X	X	X	X	X	X
RW-3B	3-22-23/15:40	W	9	G	X	X	X	X	X	X	X
B-36	3-22-23/12:00	W	9	G	X	X	X	X	X	X	X
TBV# 7103	3-22-23/12:00	W	2								X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y / N Thermometer# 5 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample____ Blank X Cooler____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3/22/23	16:30
Received by	Kaleb Atkins		EMS	3-22-23	1630
Relinquished by	Kaleb Atkins		EMS	3-23-23	0802
Received by	Sarah Jones	Sarah Jones	MM	3/23/23	0802
Relinquished by					
Received by					

Notes:
Cooler #685 0.4°C
Cooler # 1135 -0.1°C

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 19, 2023

Ethan Allen

Work Order # : 2303414

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/24/2023 09:40. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/E-1	2303414-01	Water	03/23/2023 10:45	*Kaleb Atkins*	03/24/2023 09:40
Mobile/RC-2A	2303414-02	Water	03/23/2023 11:10	*Kaleb Atkins*	03/24/2023 09:40
Mobile/RC-2	2303414-03	Water	03/23/2023 11:25	*Kaleb Atkins*	03/24/2023 09:40
Mobile/RC-3A	2303414-04	Water	03/23/2023 12:10	*Kaleb Atkins*	03/24/2023 09:40
Mobile/B-65	2303414-05	Water	03/23/2023 16:00	*Kaleb Atkins*	03/24/2023 09:40
Trip Blank TBV#7104	2303414-06	Water	03/23/2023 10:45	*Micro Methods*	03/24/2023 09:40

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Sample Receipt Conditions

Date/Time Received: 3/24/2023 9:40:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/24/2023 10:21:00AM
Cooler ID: #1103

Shipped by: Client Delivery
Submitted by: James Davis
Logged by: Sarah E. Tomek
Receipt Temperature: 0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

Cooler ID: client cooler

Receipt Temperature: 0.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2-Methylphenol, 4-Chloro-3-methylphenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate, Pentachlorophenol

3C24011-BLK1, 2303414-05[Mobile/B-65], 3C24011-DUP1, 3C27020-DUP1, 2303414-02[Mobile/RC-2A]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, Bis(2-ethylhexyl)phthalate, Carbazole, Di-n-octyl phthalate, Indeno (1,2,3-cd) pyrene, Phenol-d5

2303414-04[Mobile/RC-3A], 3C24011-BS1, 3C27020-BLK1, 3C27020-BS1, 3C27020-BSD1, 3C27020-DUP1, 3C27020-MS1, 3C24011-BSD1, 3C24011-MS1, 3C24010-BS1, 3C24010-BSD1, 3C24011-BLK1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 2-Methylnaphthalene, 2-Methylphenol, 3 & 4-Methylphenol, 4-Chloro-3-methylphenol, Anthracene, Carbazole, Dibenzofuran, Fluoranthene, Naphthalene, Phenanthrene, Pyrene

2303414-02[Mobile/RC-2A], 2303414-04[Mobile/RC-3A], 2303414-03[Mobile/RC-2]

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene

3C24010-MS1, 3C27020-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Fluoranthene, Phenanthrene

3C24010-DUP1, 3C24011-DUP1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2-Fluorophenol

2303414-01[Mobile/E-1]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2303414-01[Mobile/E-1], 2303414-02[Mobile/RC-2A], 2303414-03[Mobile/RC-2], 2303414-04[Mobile/RC-3A], 2303414-05[Mobile/B-65], 3C24025-DUP1, 3C24025-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/E-1

2303414-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**16.4**	2.23	15.4	ug/L	100.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 18:49	EPA 8270D	
2-Methylnaphthalene	**12.3**	5.13	5.13	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.18**	0.03	0.17	"	1.0	"	CRLV	"	04/01/2023 05:04	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0615	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.113	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.0821	*40.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	**20.1**	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:12	Lachat 10-107-06-1-I	
Chloride	**804**	0.82	100	"	20.0	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**6.86**			pH Units	1.0	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Nitrate as N	**1.94**	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 12:05	03/24/2023 12:22	HACH 10206	
Specific Conductance (EC)	**3120**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C27023	GWG	03/27/2023 08:30	03/27/2023 16:44	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00533**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/E-1

2303414-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**308**	9.03	111	ug/L	100.0	3C24011	CRLV	03/24/2023 10:54	04/04/2023 18:30	EPA 8270D	
Acenaphthylene	**5.13**	0.09	1.19	"	1.0	"	CRLV	"	04/05/2023 03:59	"	
Anthracene	**5.09**	0.10	1.32	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**12.9**	0.88	9.44	"	10.0	"	CRLV	"	04/04/2023 19:05	"	
Benzo (b) fluoranthene	**6.42**	0.14	1.47	"	1.0	"	CRLV	"	04/05/2023 03:59	"	
Benzo (k) fluoranthene	**101**	12.3	87.2	"	100.0	"	CRLV	"	04/04/2023 18:30	"	
Benzo (a) pyrene	**4.23**	0.12	1.28	"	1.0	"	CRLV	"	04/05/2023 03:59	"	
Bis(2-ethylhexyl)phthalate	**2.03**	0.37	1.11	"	"	"	CRLV	"	"	"	
Carbazole	ND	2.69	8.06	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.56	1.69	"	"	"	CRLV	"	"	"	
Chrysene	**11.1**	0.80	9.13	"	10.0	"	CRLV	"	04/04/2023 19:05	"	
Dibenzofuran	**30.6**	4.09	12.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.08	"	1.0	"	CRLV	"	04/05/2023 03:59	"	
2,4-Dinitrophenol	ND	1.48	4.43	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.74	"	"	"	CRLV	"	"	"	
Fluoranthene	**163**	2.64	154	"	100.0	"	CRLV	"	04/04/2023 18:30	"	
Fluorene	**31.1**	1.10	12.2	"	10.0	"	CRLV	"	04/04/2023 19:05	"	
2-Methylphenol	ND	0.42	1.27	"	1.0	"	CRLV	"	04/05/2023 03:59	"	
3 & 4-Methylphenol	ND	1.16	3.48	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.03	1.03	"	"	"	CRLV	"	"	"	
Phenanthrene	**4.17**	0.09	1.23	"	"	"	CRLV	"	"	"	
Pyrene	**132**	16.2	59.5	"	100.0	"	CRLV	"	04/04/2023 18:30	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	1.0	"	CRLV	"	04/05/2023 03:59	"	
1-Methylnaphthalene	**28.8**	0.51	13.1	"	10.0	"	CRLV	"	04/04/2023 19:05	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	8.22	*80.1 %*	*19.2-121*	"	CRLV	"	*04/05/2023 03:59*	"	
2-Fluorobiphenyl	3.27	*63.8 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	0.0205	*0.200 %*	*10-100*	"	CRLV	"	"	"	*SR05*
Nitrobenzene-d5	2.59	*50.6 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	1.30	*12.7 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.32	*64.8 %*	*10-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**41.2**	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 15:03	EPA 8260D	
Ethylbenzene	**20.7**	0.190	5.00	"	"	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

Mobile/E-1

2303414-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.8	*95.7 %*	*77.2-120*	*3D06028*	BSF	*04/05/2023 08:00*	"	"	
1,2-Dichloroethane-d4	49.3	*98.7 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.2	*98.4 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.3	*101 %*	*76.1-131*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/RC-2A

2303414-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.60**	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:16	Lachat 10-107-06-1-I	
Chloride	**53.3**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**6.30**			pH Units	"	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 12:05	03/24/2023 12:22	HACH 10206	
Specific Conductance (EC)	**369**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C27023	GWG	03/27/2023 08:30	03/27/2023 16:49	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/RC-2A

2303414-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**106**	11.9	105	ug/L	10.0	3C27020	CRLV	03/27/2023 08:25	04/10/2023 16:38	EPA 8270D	
Acenaphthylene	**14.6**	1.13	10.5	"	1.0	"	CRLV	"	04/12/2023 15:35	"	
Anthracene	**1.40**	1.04	10.5	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.92	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.08	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.06	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.03	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.20	10.5	"	"	"	CRLV	"	"	"	
Carbazole	**4.38**	0.94	10.5	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	**1.12**	1.09	10.5	"	"	"	CRLV	"	"	"	J
Chrysene	ND	0.97	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.70	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	**14.9**	1.09	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**2.55**	0.89	10.5	"	"	"	CRLV	"	"	"	J
2,4-Dinitrophenol	ND	3.21	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.42	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	**10.0**	0.98	10.5	"	"	"	CRLV	"	"	"	J
Fluorene	**17.6**	1.06	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.93	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**10.7**	1.18	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	**1.45**	0.93	10.5	"	"	"	CRLV	"	"	"	J
3 & 4-Methylphenol	**3.81**	0.92	10.5	"	"	"	CRLV	"	"	"	J
Naphthalene	**72.3**	1.15	10.5	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.86	10.5	"	"	"	CRLV	"	"	"	CC-01
Phenanthrene	**4.09**	0.98	10.5	"	"	"	CRLV	"	"	"	J
Pyrene	**4.33**	1.15	10.5	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.72	10.5	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	116	*110 %*	*15.8-130*	"	CRLV	"	*04/10/2023 16:38*	"	
2-Fluorobiphenyl	35.2	*66.8 %*	*14.6-104*	"	CRLV	"	"	"	
2-Fluorophenol	35.1	*33.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	32.4	*61.5 %*	*10-108*	"	CRLV	"	*04/12/2023 15:35*	"	
Phenol-d5	16.7	*15.9 %*	*10-100*	"	CRLV	"	*04/10/2023 16:38*	"	
Terphenyl-dl4	20.2	*38.4 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 15:26	EPA 8260D	
Ethylbenzene	**10.2**	0.190	5.00	"	"	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

Mobile/RC-2A

2303414-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.1	*94.3 %*	*77.2-120*	*3D06028*	BSF	*04/05/2023 08:00*	"	"	
1,2-Dichloroethane-d4	47.5	*94.9 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.9	*99.7 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.6	*99.3 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/RC-2

2303414-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**5.87**	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:17	Lachat 10-107-06-1-I	
Chloride	**105**	0.08	10.0	"	2.0	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**6.70**			pH Units	1.0	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Specific Conductance (EC)	**959**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Nitrate as N	**0.92**	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 12:05	03/24/2023 12:22	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C27023	GWG	03/27/2023 08:30	03/27/2023 16:53	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00120**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/RC-2

2303414-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**105**	1.19	10.5	ug/L	1.0	3C27020	CRLV	03/27/2023 08:25	04/07/2023 01:29	EPA 8270D	
Acenaphthylene	ND	1.13	10.5	"	"	"	CRLV	"	"	"	
Anthracene	**4.45**	1.04	10.5	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.92	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.08	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.06	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.03	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.20	10.5	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.94	10.5	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.09	10.5	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.97	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.70	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.09	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.89	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.21	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.42	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.98	10.5	"	"	"	CRLV	"	"	"	
Fluorene	**75.3**	1.06	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.93	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.18	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.93	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.92	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	**6.54**	1.15	10.5	"	"	"	CRLV	"	"	"	J
Pentachlorophenol	ND	2.86	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	**50.5**	0.98	10.5	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.15	10.5	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.72	10.5	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	67.1	*63.7 %*	*15.8-130*	"	CRLV	"	"	"	
2-Fluorobiphenyl	34.7	*65.9 %*	*14.6-104*	"	CRLV	"	"	"	
2-Fluorophenol	19.0	*18.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	20.0	*37.9 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	16.6	*15.8 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	20.3	*38.5 %*	*10-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 15:50	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/RC-2

2303414-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.8	*93.6 %*	*77.2-120*	*3D06028*	BSF	*04/05/2023 08:00*	"	"	
1,2-Dichloroethane-d4	47.8	*95.7 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.2	*98.3 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.3	*94.6 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/RC-3A

2303414-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.78**	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:19	Lachat 10-107-06-1-I	
Chloride	**86.4**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**5.88**			pH Units	"	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 12:05	03/24/2023 12:22	HACH 10206	
Specific Conductance (EC)	**501**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C27023	GWG	03/27/2023 08:30	03/27/2023 16:58	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/RC-3A

2303414-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**44.5**	1.15	10.2	ug/L	1.0	3C27020	CRLV	03/27/2023 08:25	04/10/2023 16:03	EPA 8270D	
Acenaphthylene	ND	1.09	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.01	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.05	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.03	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.00	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"	"	"	CRLV	"	"	"	
Carbazole	**18.2**	0.92	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.06	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.94	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.68	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	**5.15**	1.06	10.2	"	"	"	CRLV	"	"	"	J
2,4-Dimethylphenol	ND	0.86	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.11	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.38	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**4.61**	0.95	10.2	"	"	"	CRLV	"	"	"	J
Fluorene	**23.1**	1.03	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.90	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**3.64**	1.14	10.2	"	"	"	CRLV	"	"	"	J
2-Methylphenol	ND	0.90	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**56.0**	1.11	10.2	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.78	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	**2.69**	0.95	10.2	"	"	"	CRLV	"	"	"	J
Pyrene	**2.08**	1.11	10.2	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.63	10.2	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	114	*112 %*	*15.8-130*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	31.0	*60.7 %*	*14.6-104*	"	CRLV	"	"	"	
2-Fluorophenol	24.1	*23.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	18.3	*35.9 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	16.9	*16.6 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	17.1	*33.5 %*	*10-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 16:13	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

Mobile/RC-3A

2303414-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.2	*94.3 %*	*77.2-120*	*3D06028*	BSF	*04/05/2023 08:00*	"	"	
1,2-Dichloroethane-d4	47.4	*94.8 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.6	*101 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.4	*96.7 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/B-65

2303414-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.23**	0.02	0.15	ug/L	1.0	3C24010	CRLV	03/27/2023 10:31	04/01/2023 04:23	EPA 8270D	
2-Methylnaphthalene	**0.06**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.08**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.13**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.21**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.06**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.20**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.20**	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0812	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.112	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.112	*55.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C29014	CRG	03/28/2023 12:30	03/29/2023 10:20	Lachat 10-107-06-1-I	
Chloride	**18.3**	0.04	5.00	"	"	3C27032	DLW	03/27/2023 09:00	03/27/2023 12:25	ASTM D 512-12	
pH	**5.87**			pH Units	"	3C24025	JBM	03/24/2023 15:57	03/24/2023 15:59	SM 4500-H+B-2011	
Nitrate as N	**2.33**	0.10	0.50	mg/L	"	3C24004	DLW	03/24/2023 12:05	03/24/2023 12:22	HACH 10206	
Specific Conductance (EC)	**185**			umhos/cm @25.0 C	"	3C24023	JBM	03/24/2023 14:43	03/24/2023 14:47	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C27023	GWG	03/27/2023 08:30	03/27/2023 17:02	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Mobile/B-65

2303414-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	3C24011	CRLV	03/24/2023 10:54	04/02/2023 22:22	EPA 8270D	CC-01
Carbazole	ND	2.67	8.02	"	"	"	CRLV	"	"	"	CC-01
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.47	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.31	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	1.96	*19.2 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.92	*37.6 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	4.52	*44.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.35	*65.6 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	4.35	*42.6 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	3.47	*68.0 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 16:37	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.3	*94.6 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.8	*91.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.6	*101 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.3	*94.7 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

Trip Blank TBV#7104

2303414-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 17:00	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.7	*95.4 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.2	*94.3 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.1	*100 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.0	*96.0 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24010-BLK1)											
Naphthalene	ND	0.02	0.15	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.110*			"	*0.200*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24010-BS1)											
Naphthalene	0.22	0.02	0.15	ug/L	0.200		110	10-145			
2-Methylnaphthalene	0.14	0.05	0.05	"	0.200		70.0	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.13	0.02	0.05	"	0.200		65.0	10-143			
Fluorene	0.18	0.02	0.12	"	0.200		90.0	10-150			
Phenanthrene	0.25	0.02	0.06	"	0.200		125	10-151			
Anthracene	0.15	0.02	0.06	"	0.200		75.0	10-130			
Fluoranthene	0.24	0.03	0.06	"	0.200		120	10-155			
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148			
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141			
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150			
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160			
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159			
Benzo (a) pyrene	0.19	0.02	0.06	"	0.200		95.0	10-177			
Indeno (1,2,3-cd) pyrene	0.26	0.02	0.17	"	0.200		130	10.7-171			CC-03
Dibenz (a,h) anthracene	0.18	0.04	0.16	"	0.200		90.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.130*			"	*0.200*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24010-BSD1)											
Naphthalene	0.23	0.02	0.15	ug/L	0.200		115	10-145	4.44	40	
2-Methylnaphthalene	0.15	0.05	0.05	"	0.200		75.0	50-150	6.90	40	
Acenaphthylene	0.15	0.01	0.06	"	0.200		75.0	10-147	6.90	40	
Acenaphthene	0.16	0.02	0.05	"	0.200		80.0	10-143	20.7	40	
Fluorene	0.20	0.02	0.12	"	0.200		100	10-150	10.5	40	
Phenanthrene	0.30	0.02	0.06	"	0.200		150	10-151	18.2	40	
Anthracene	0.16	0.02	0.06	"	0.200		80.0	10-130	6.45	40	
Fluoranthene	0.28	0.03	0.06	"	0.200		140	10-155	15.4	40	
Pyrene	0.18	0.02	0.05	"	0.200		90.0	10-148	5.41	40	
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141	0.00	40	
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150	0.00	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	0.00	40	
Benzo (k) fluoranthene	0.11	0.02	0.05	"	0.200		55.0	33-159	0.00	40	
Benzo (a) pyrene	0.18	0.02	0.06	"	0.200		90.0	10-177	5.41	40	
Indeno (1,2,3-cd) pyrene	0.24	0.02	0.17	"	0.200		120	10.7-171	8.00	40	CC-03
Dibenz (a,h) anthracene	0.17	0.04	0.16	"	0.200		85.0	16-164	5.71	40	
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.120*			"	*0.200*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24010-DUP1)			**Source: 2303327-02**								
Naphthalene	446	22.5	155	ug/L		392			12.9	45	
2-Methylnaphthalene	49.7	5.18	5.18	"		47.4			4.77	45	
Acenaphthylene	1.24	0.12	0.62	"		1.34			7.48	45	
Acenaphthene	218	22.5	51.8	"		216			0.517	45	
Fluorene	96.4	1.74	12.4	"		95.9			0.517	45	
Phenanthrene	383	15.9	62.2	"		423			9.74	45	
Anthracene	31.1	1.59	6.22	"		29.9			3.91	45	
Fluoranthene	99.5	2.66	6.22	"		237			81.8	45	P3
Pyrene	46.6	1.74	5.18	"		52.6			12.0	45	
Benzo (a) anthracene	7.05	0.26	0.62	"		16.5			80.3	45	P3
Chrysene	5.70	0.31	0.52	"		9.79			52.9	45	P3
Benzo (b) fluoranthene	3.83	0.27	0.52	"		13.4			111	45	P3
Benzo (k) fluoranthene	0.81	0.03	0.05	"		1.34			49.5	45	P3
Benzo (a) pyrene	1.55	0.22	0.62	"		2.58			49.5	45	P3
Indeno (1,2,3-cd) pyrene	0.41	0.03	0.18	"		0.65			44.2	45	
Dibenz (a,h) anthracene	0.17	0.04	0.17	"		0.26			43.4	45	
Surrogate: 2-Fluorobiphenyl	*0.0725*			"	*0.207*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.135*			"	*0.207*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.207*		*75.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24010 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24010-MS1)		**Source: 2303327-02**									
Naphthalene	361	22.4	155	ug/L	0.206	392	NR	10-182			M5
2-Methylnaphthalene	43.3	5.15	5.15	"	0.206	47.4	NR	0-200			M5
Acenaphthylene	1.24	0.12	0.62	"	0.206	1.34	NR	10-200			M5
Acenaphthene	186	22.4	51.5	"	0.206	216	NR	10-200			M5
Fluorene	155	17.3	124	"	0.206	95.9	NR	10-200			M5
Phenanthrene	330	15.8	61.9	"	0.206	423	NR	46.3-156			M5
Anthracene	61.9	15.8	61.9	"	0.206	29.9	NR	12.9-149			M5
Fluoranthene	186	26.5	61.9	"	0.206	237	NR	10-200			M5
Pyrene	82.5	17.3	51.5	"	0.206	52.6	NR	10-191			M5
Benzo (a) anthracene	7.94	0.25	0.62	"	0.206	16.5	NR	19.3-191			M5
Chrysene	6.39	0.31	0.52	"	0.206	9.79	NR	16.5-166			M5
Benzo (b) fluoranthene	4.23	0.26	0.52	"	0.206	13.4	NR	17.3-163			M5
Benzo (k) fluoranthene	0.95	0.03	0.05	"	0.206	1.34	NR	23.7-152			M5
Benzo (a) pyrene	1.96	0.22	0.62	"	0.206	2.58	NR	10-200			M5
Indeno (1,2,3-cd) pyrene	0.49	0.03	0.18	"	0.206	0.65	NR	10-189			M5
Dibenz (a,h) anthracene	0.25	0.04	0.16	"	0.206	0.26	NR	51.1-147			M5
Surrogate: 2-Fluorobiphenyl	*0.0722*			"	*0.206*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.113*			"	*0.206*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.155*			"	*0.206*		*75.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/19/2023 07:41

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24004 - Default Prep GenChem											
Blank (3C24004-BLK1)											
Nitrate as N	ND	0.10	0.50	mg/L							
LCS (3C24004-BS1)											
Nitrate as N	10.6	0.10	0.50	mg/L	10.0		106	90-110			
LCS Dup (3C24004-BSD1)											
Nitrate as N	10.5	0.10	0.50	mg/L	10.0		105	90-110	0.948	20	
Duplicate (3C24004-DUP1)			**Source: 2303392-04**								
Nitrate as N	2.56	0.10	0.50	mg/L		2.58			0.778	20	
Matrix Spike (3C24004-MS1)			**Source: 2303392-04**								
Nitrate as N	6.59	0.10	0.50	mg/L	4.00	2.58	100	90-110			
Matrix Spike Dup (3C24004-MSD1)			**Source: 2303392-04**								
Nitrate as N	6.58	0.10	0.50	mg/L	4.00	2.58	100	90-110	0.152	20	
Batch 3C24023 - Default Prep GenChem											
LCS (3C24023-BS1)											
Specific Conductance (EC)	1410			uS/cm	1410		100	90.1-113			
LCS (3C24023-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3C24023-DUP1)			**Source: 2303392-04**								
Specific Conductance (EC)	399			umhos/cm @25.0 C		400			0.275	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24023 - Default Prep GenChem											
Duplicate (3C24023-DUP2)			**Source: 2303414-05**								
Specific Conductance (EC)	184			umhos/cm @25.0 C		185			0.325	20	
Batch 3C24025 - Default Prep GenChem											
Duplicate (3C24025-DUP1)			**Source: 2303392-04**								**HT-02**
pH	5.20			pH Units		5.19			0.192	5	
Duplicate (3C24025-DUP2)			**Source: 2303414-05**								**HT-02**
pH	5.88			pH Units		5.87			0.170	5	
Batch 3C27032 - Default Prep GenChem											
Blank (3C27032-BLK1)											
Chloride	ND	0.04	5.00	mg/L							
LCS (3C27032-BS1)											
Chloride	25.0	0.04	5.00	mg/L	25.0		100	85-115			
LCS Dup (3C27032-BSD1)											
Chloride	25.3	0.04	5.00	mg/L	25.0		101	85-115	1.19	30	
Duplicate (3C27032-DUP1)			**Source: 2303355-04**								
Chloride	5.47	0.04	5.00	mg/L		5.39			1.47	20	
Duplicate (3C27032-DUP2)			**Source: 2303415-06**								
Chloride	13.2	0.04	5.00	mg/L		13.3			0.755	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27032 - Default Prep GenChem											
Matrix Spike (3C27032-MS1)			**Source: 2303355-04**								
Chloride	26.5	0.04	5.00	mg/L	20.0	5.39	106	70-130			
Matrix Spike Dup (3C27032-MSD1)			**Source: 2303355-04**								
Chloride	26.6	0.04	5.00	mg/L	20.0	5.39	106	70-130	0.377	20	
Batch 3C29014 - Default Prep GenChem											
Blank (3C29014-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3C29014-BS1)											
Ammonia as N	4.93	0.04	0.21	mg/L	5.00		98.6	90-110			
LCS Dup (3C29014-BSD1)											
Ammonia as N	4.92	0.04	0.21	mg/L	5.00		98.4	90-110	0.203	10	
Matrix Spike (3C29014-MS1)			**Source: 2303403-01**								
Ammonia as N	4.87	0.04	0.21	mg/L	5.00	0.10	95.5	90-110			
Matrix Spike Dup (3C29014-MSD1)			**Source: 2303403-01**								
Ammonia as N	4.86	0.04	0.21	mg/L	5.00	0.10	95.3	90-110	0.206	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27023 - EPA 200.2 DCN 1017 Rev 10											
Blank (3C27023-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3C27023-BS1)											
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100		102	85-115			
Chromium [He]	0.102	0.00016	0.00100	"	0.100		102	85-115			
Lead [He]	0.104	0.00022	0.00100	"	0.100		104	85-115			
Nickel [He]	0.100	0.00035	0.0400	"	0.100		100	85-115			
LCS Dup (3C27023-BSD1)											
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100		102	85-115	0.396	20	
Chromium [He]	0.103	0.00016	0.00100	"	0.100		103	85-115	1.43	20	
Lead [He]	0.104	0.00022	0.00100	"	0.100		104	85-115	0.225	20	
Nickel [He]	0.101	0.00035	0.0400	"	0.100		101	85-115	0.353	20	
Matrix Spike (3C27023-MS1)			**Source: 2303408-03**								
Arsenic [He]	0.100	0.00078	0.00200	mg/L	0.100	ND	100	70-130			
Chromium [He]	0.102	0.00016	0.00100	"	0.100	ND	102	70-130			
Lead [He]	0.102	0.00022	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	0.099	0.00035	0.0400	"	0.100	ND	98.8	70-130			
Matrix Spike (3C27023-MS2)			**Source: 2303408-04**								
Arsenic [He]	0.099	0.00078	0.00200	mg/L	0.100	ND	99.1	70-130			
Chromium [He]	0.101	0.00016	0.00100	"	0.100	ND	101	70-130			
Lead [He]	0.102	0.00022	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	0.097	0.00035	0.0400	"	0.100	ND	97.4	70-130			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27023 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (3C27023-MSD1)			**Source: 2303408-03**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130	0.632	20	
Chromium [He]	0.103	0.00016	0.00100	"	0.100	ND	103	70-130	1.51	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130	0.0843	20	
Nickel [He]	0.099	0.00035	0.0400	"	0.100	ND	98.9	70-130	0.165	20	
Matrix Spike Dup (3C27023-MSD2)			**Source: 2303408-04**								
Arsenic [He]	0.100	0.00078	0.00200	mg/L	0.100	ND	100	70-130	1.37	20	
Chromium [He]	0.102	0.00016	0.00100	"	0.100	ND	102	70-130	0.872	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130	1.05	20	
Nickel [He]	0.099	0.00035	0.0400	"	0.100	ND	99.0	70-130	1.61	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Blank (3C24011-BLK1)											
Acenaphthene	ND	0.09	1.08	ug/L							
Acenaphthylene	ND	0.09	1.16	"							
Anthracene	ND	0.10	1.29	"							
Benzo (a) anthracene	ND	0.09	0.92	"							
Benzo (b) fluoranthene	ND	0.14	1.43	"							
Benzo (k) fluoranthene	ND	0.12	0.85	"							
Benzo (a) pyrene	ND	0.12	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.36	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.55	1.65	"							CC-01
Chrysene	ND	0.08	0.89	"							
Dibenz (a,h) anthracene	ND	0.19	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.35	1.05	"							
2,4-Dinitrophenol	ND	1.44	4.32	"							
Di-n-octyl phthalate	ND	0.57	1.70	"							
Fluoranthene	ND	0.03	1.50	"							
Fluorene	ND	0.11	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.15	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							CC-01
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.08	0.99	"							
Pentachlorophenol	ND	1.03	3.09	"							
Phenanthrene	ND	0.09	1.20	"							
Pyrene	ND	0.16	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*7.47*			*"*	*10.0*		*74.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*3.31*			*"*	*5.00*		*66.2*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.05*			*"*	*10.0*		*50.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.71*			*"*	*5.00*		*34.2*	*10-100*			
Surrogate: Phenol-d5	*5.56*			*"*	*10.0*		*55.6*	*10-100*			*CC-03*
Surrogate: Terphenyl-dl4	*3.61*			*"*	*5.00*		*72.2*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS (3C24011-BS1)											
Acenaphthene	5.85	0.09	1.08	ug/L	10.0		58.5	23.3-110			
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107			
Anthracene	5.08	0.10	1.29	"	10.0		50.8	31-121			
Benzo (a) anthracene	6.05	0.09	0.92	"	10.0		60.5	28.5-120			
Benzo (b) fluoranthene	7.79	0.14	1.43	"	10.0		77.9	31.4-122			
Benzo (k) fluoranthene	6.73	0.12	0.85	"	10.0		67.3	24.6-125			
Benzo (a) pyrene	6.55	0.12	1.25	"	10.0		65.5	30.2-119			
Bis(2-ethylhexyl)phthalate	9.99	0.36	1.08	"	10.0		99.9	36.4-147			CC-03
Carbazole	9.12	2.62	7.86	"	10.0		91.2	25.1-145			
4-Chloro-3-methylphenol	7.59	0.55	1.65	"	10.0		75.9	33.8-133			
Chrysene	6.51	0.08	0.89	"	10.0		65.1	16.5-124			
Dibenz (a,h) anthracene	7.36	0.19	1.78	"	10.0		73.6	12.1-136			
Dibenzofuran	6.37	0.40	1.20	"	10.0		63.7	20.8-127			
2,4-Dimethylphenol	6.14	0.35	1.05	"	10.0		61.4	18.3-144			
2,4-Dinitrophenol	2.10	1.44	4.32	"	10.0		21.0	14.6-124			
Di-n-octyl phthalate	9.92	0.57	1.70	"	10.0		99.2	37.1-149			CC-03
Fluoranthene	5.62	0.03	1.50	"	10.0		56.2	29.2-123			
Fluorene	6.08	0.11	1.19	"	10.0		60.8	25.6-117			
Indeno (1,2,3-cd) pyrene	7.59	0.15	1.63	"	10.0		75.9	23.1-121			
2-Methylnaphthalene	6.26	0.05	1.28	"	10.0		62.6	20.8-109			
2-Methylphenol	7.21	0.41	1.24	"	10.0		72.1	27.9-113			
3 & 4-Methylphenol	16.3	1.13	3.39	"	20.0		81.5	23.5-113			
Naphthalene	6.25	0.08	0.99	"	10.0		62.5	16.7-105			
Pentachlorophenol	4.86	1.03	3.09	"	10.0		48.6	10-154			
Phenanthrene	6.51	0.09	1.20	"	10.0		65.1	22.8-123			
Pyrene	7.81	0.16	0.58	"	10.0		78.1	25.8-126			
2,4,6-Trichlorophenol	6.14	0.44	1.32	"	10.0		61.4	30-127			
1-Methylnaphthalene	4.87	0.05	1.28	"	10.0		48.7	17.2-108			
Surrogate: 2,4,6-Tribromophenol	*3.15*			"	*10.0*		*31.5*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.88*			"	*5.00*		*57.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.58*			"	*10.0*		*15.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.11*			"	*5.00*		*62.2*	*10-100*			
Surrogate: Phenol-d5	*3.31*			"	*10.0*		*33.1*	*10-100*			
Surrogate: Terphenyl-dl4	*3.42*			"	*5.00*		*68.4*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C24011-BSD1)											
Acenaphthene	5.94	0.09	1.08	ug/L	10.0		59.4	23.3-110	1.53	48	
Acenaphthylene	6.67	0.09	1.16	"	10.0		66.7	25.1-107	0.00	74	
Anthracene	4.76	0.10	1.29	"	10.0		47.6	31-121	6.50	66	
Benzo (a) anthracene	6.44	0.09	0.92	"	10.0		64.4	28.5-120	6.24	53	
Benzo (b) fluoranthene	7.60	0.14	1.43	"	10.0		76.0	31.4-122	2.47	71	
Benzo (k) fluoranthene	7.86	0.12	0.85	"	10.0		78.6	24.6-125	15.5	63	
Benzo (a) pyrene	6.67	0.12	1.25	"	10.0		66.7	30.2-119	1.82	72	
Bis(2-ethylhexyl)phthalate	10.8	0.36	1.08	"	10.0		108	36.4-147	7.61	82	CC-03
Carbazole	8.77	2.62	7.86	"	10.0		87.7	25.1-145	3.91	40	CC-03
4-Chloro-3-methylphenol	6.99	0.55	1.65	"	10.0		69.9	33.8-133	8.23	73	
Chrysene	6.40	0.08	0.89	"	10.0		64.0	16.5-124	1.70	87	
Dibenz (a,h) anthracene	6.60	0.19	1.78	"	10.0		66.0	12.1-136	10.9	126	
Dibenzofuran	6.49	0.40	1.20	"	10.0		64.9	20.8-127	1.87	40	
2,4-Dimethylphenol	5.90	0.35	1.05	"	10.0		59.0	18.3-144	3.99	58	
2,4-Dinitrophenol	4.97	1.44	4.32	"	10.0		49.7	14.6-124	81.2	132	
Di-n-octyl phthalate	11.5	0.57	1.70	"	10.0		115	37.1-149	14.3	69	CC-03
Fluoranthene	5.33	0.03	1.50	"	10.0		53.3	29.2-123	5.30	66	
Fluorene	6.23	0.11	1.19	"	10.0		62.3	25.6-117	2.44	38	
Indeno (1,2,3-cd) pyrene	7.34	0.15	1.63	"	10.0		73.4	23.1-121	3.35	99	
2-Methylnaphthalene	5.96	0.05	1.28	"	10.0		59.6	20.8-109	4.91	40	
2-Methylphenol	7.12	0.41	1.24	"	10.0		71.2	27.9-113	1.26	40	
3 & 4-Methylphenol	17.9	1.13	3.39	"	20.0		89.5	23.5-113	9.36	40	
Naphthalene	6.33	0.08	0.99	"	10.0		63.3	16.7-105	1.27	65	
Pentachlorophenol	4.90	1.03	3.09	"	10.0		49.0	10-154	0.820	86	
Phenanthrene	6.58	0.09	1.20	"	10.0		65.8	22.8-123	1.07	39	
Pyrene	8.58	0.16	0.58	"	10.0		85.8	25.8-126	9.40	49	
2,4,6-Trichlorophenol	5.92	0.44	1.32	"	10.0		59.2	30-127	3.65	58	
1-Methylnaphthalene	4.86	0.05	1.28	"	10.0		48.6	17.2-108	0.206	40	
Surrogate: 2,4,6-Tribromophenol	*2.84*			"	*10.0*		*28.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.85*			"	*5.00*		*57.0*	*15.3-102*			
Surrogate: 2-Fluorophenol	*1.47*			"	*10.0*		*14.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.97*			"	*5.00*		*59.4*	*10-100*			
Surrogate: Phenol-d5	*2.74*			"	*10.0*		*27.4*	*10-100*			
Surrogate: Terphenyl-dl4	*3.64*			"	*5.00*		*72.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C24011-DUP1)			**Source: 2303327-01**								
Acenaphthene	3.40	0.09	1.13	ug/L		2.77			20.4	45	
Acenaphthylene	ND	0.09	1.21	"		ND				45	
Anthracene	ND	0.10	1.34	"		ND				45	
Benzo (a) anthracene	ND	0.09	0.96	"		ND				45	
Benzo (b) fluoranthene	ND	0.15	1.49	"		ND				45	
Benzo (k) fluoranthene	0.59	0.13	0.89	"		1.78			100	45	P3
Benzo (a) pyrene	ND	0.13	1.30	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.13	"		ND				45	CC-01
Carbazole	ND	2.73	8.19	"		ND				45	CC-01
4-Chloro-3-methylphenol	ND	0.57	1.72	"		ND				45	
Chrysene	ND	0.08	0.93	"		ND				45	
Dibenz (a,h) anthracene	ND	0.19	1.85	"		ND				45	
Dibenzofuran	ND	0.42	1.25	"		ND				45	
2,4-Dimethylphenol	ND	0.36	1.09	"		ND				45	
2,4-Dinitrophenol	ND	1.50	4.50	"		ND				45	
Di-n-octyl phthalate	ND	0.59	1.77	"		ND				45	CC-01
Fluoranthene	1.42	0.03	1.56	"		1.61			12.5	45	
Fluorene	ND	0.11	1.24	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.15	1.70	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
2-Methylphenol	ND	0.43	1.29	"		ND				45	
3 & 4-Methylphenol	ND	1.18	3.53	"		ND				45	
Naphthalene	1.69	0.09	1.03	"		1.73			2.52	45	
Pentachlorophenol	ND	1.07	3.22	"		ND				45	
Phenanthrene	3.05	0.09	1.25	"		1.37			76.2	45	P3
Pyrene	1.40	0.16	0.60	"		1.61			14.0	45	
2,4,6-Trichlorophenol	ND	0.46	1.38	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.33	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*2.89*			"	*10.4*		*27.7*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*1.86*			"	*5.21*		*35.8*	*15.3-102*			
Surrogate: 2-Fluorophenol	*3.97*			"	*10.4*		*38.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.99*			"	*5.21*		*57.4*	*10-100*			
Surrogate: Phenol-d5	*3.40*			"	*10.4*		*32.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.08*			"	*5.21*		*40.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C24011 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C24011-MS1)		**Source: 2303327-01**									
Acenaphthene	8.78	0.09	1.13	ug/L	10.4	2.77	57.7	13.9-100			
Acenaphthylene	6.13	0.09	1.21	"	10.4	ND	58.8	24.9-100			
Anthracene	4.23	0.10	1.34	"	10.4	ND	40.6	18.9-116			
Benzo (a) anthracene	5.53	0.09	0.96	"	10.4	ND	53.1	17.8-114			
Benzo (b) fluoranthene	6.51	0.15	1.49	"	10.4	ND	62.5	10-130			
Benzo (k) fluoranthene	5.91	0.13	0.89	"	10.4	1.78	39.6	10-124			
Benzo (a) pyrene	5.27	0.13	1.30	"	10.4	ND	50.6	11.4-120			
Bis(2-ethylhexyl)phthalate	9.05	0.37	1.13	"	10.4	ND	86.9	10-158			CC-03
Carbazole	8.90	2.73	8.19	"	10.4	ND	85.4	15.3-151			CC-03
4-Chloro-3-methylphenol	5.06	0.57	1.72	"	10.4	ND	48.6	19.6-126			
Chrysene	6.26	0.08	0.93	"	10.4	ND	60.1	27.4-100			
Dibenz (a,h) anthracene	5.48	0.19	1.85	"	10.4	ND	52.6	24.3-106			
Dibenzofuran	6.43	0.42	1.25	"	10.4	ND	61.7	10-107			
2,4-Dimethylphenol	4.65	0.36	1.09	"	10.4	ND	44.6	10-141			
2,4-Dinitrophenol	4.28	1.50	4.50	"	10.4	ND	41.1	10-173			
Di-n-octyl phthalate	9.02	0.59	1.77	"	10.4	ND	86.6	45.7-114			CC-03
Fluoranthene	7.18	0.03	1.56	"	10.4	1.61	53.5	23.8-112			
Fluorene	6.92	0.11	1.24	"	10.4	ND	66.4	12.6-112			
Indeno (1,2,3-cd) pyrene	5.82	0.15	1.70	"	10.4	ND	55.9	24.7-104			
2-Methylnaphthalene	6.04	0.05	1.33	"	10.4	ND	58.0	30.6-100			
2-Methylphenol	5.85	0.43	1.29	"	10.4	ND	56.2	13-100			
3 & 4-Methylphenol	9.60	1.18	3.53	"	20.8	ND	46.1	10-100			
Naphthalene	7.40	0.09	1.03	"	10.4	1.73	54.4	14.1-100			
Pentachlorophenol	2.88	1.07	3.22	"	10.4	ND	27.6	10-155			
Phenanthrene	9.80	0.09	1.25	"	10.4	1.37	81.0	21.9-105			
Pyrene	10.2	0.16	0.60	"	10.4	1.61	82.4	10-131			
2,4,6-Trichlorophenol	4.86	0.46	1.38	"	10.4	ND	46.7	21.4-119			
1-Methylnaphthalene	4.85	0.05	1.33	"	10.4	ND	46.6	13.8-101			
Surrogate: 2,4,6-Tribromophenol	*2.54*			"	*10.4*		*24.4*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.48*			"	*5.21*		*47.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.96*			"	*10.4*		*57.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*4.71*			"	*5.21*		*90.4*	*10-100*			
Surrogate: Phenol-d5	*1.83*			"	*10.4*		*17.6*	*10-100*			
Surrogate: Terphenyl-dl4	*2.48*			"	*5.21*		*47.6*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
Blank (3C27020-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*106*			"	*100*		*106*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*31.4*			"	*50.0*		*62.9*	*14.6-104*			
Surrogate: 2-Fluorophenol	*29.9*			"	*100*		*29.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*20.8*			"	*50.0*		*41.6*	*10-108*			
Surrogate: Phenol-d5	*20.9*			"	*100*		*20.9*	*10-100*			
Surrogate: Terphenyl-dl4	*32.1*			"	*50.0*		*64.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
LCS (3C27020-BS1)											
Acenaphthene	65.9	1.13	10.0	ug/L	100		65.9	34.2-100			
Acenaphthylene	77.3	1.07	10.0	"	100		77.3	25.3-109			
Anthracene	67.0	0.99	10.0	"	100		67.0	35.2-100			
Benzo (a) anthracene	62.2	0.87	10.0	"	100		62.2	35.2-100			
Benzo (b) fluoranthene	59.6	1.03	10.0	"	100		59.6	30.2-101			
Benzo (k) fluoranthene	58.2	1.01	10.0	"	100		58.2	29.8-101			
Benzo (a) pyrene	62.5	0.98	10.0	"	100		62.5	32.8-105			
Bis(2-ethylhexyl)phthalate	62.0	1.14	10.0	"	100		62.0	23.6-121			
Carbazole	86.2	0.90	10.0	"	100		86.2	10-145			
4-Chloro-3-methylphenol	71.4	1.04	10.0	"	100		71.4	39.5-100			
Chrysene	68.9	0.92	10.0	"	100		68.9	14.3-109			
Dibenz (a,h) anthracene	70.0	0.67	10.0	"	100		70.0	15.2-113			
Dibenzofuran	71.0	1.04	10.0	"	100		71.0	35-100			
2,4-Dimethylphenol	59.5	0.84	10.0	"	100		59.5	32.5-100			
2,4-Dinitrophenol	86.6	3.05	10.0	"	100		86.6	10-133			
Di-n-octyl phthalate	51.0	1.35	10.0	"	100		51.0	10-127			
Fluoranthene	75.1	0.93	10.0	"	100		75.1	19.8-125			
Fluorene	69.9	1.01	10.0	"	100		69.9	31.2-105			
Indeno (1,2,3-cd) pyrene	80.0	0.89	10.0	"	100		80.0	25.2-107			
2-Methylnaphthalene	66.6	1.12	10.0	"	100		66.6	22.3-100			
2-Methylphenol	51.1	0.88	10.0	"	100		51.1	28.1-100			
3 & 4-Methylphenol	92.7	0.87	10.0	"	200		46.4	24.5-100			
Naphthalene	58.7	1.09	10.0	"	100		58.7	23.4-100			
Pentachlorophenol	83.3	2.72	10.0	"	100		83.3	10-102			
Phenanthrene	69.3	0.93	10.0	"	100		69.3	34.8-100			
Pyrene	59.6	1.09	10.0	"	100		59.6	10-124			
2,4,6-Trichlorophenol	73.0	2.58	10.0	"	100		73.0	38.3-100			
Surrogate: 2,4,6-Tribromophenol	*122*			"	*100*		*122*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*34.2*			"	*50.0*		*68.3*	*14.6-104*			
Surrogate: 2-Fluorophenol	*31.4*			"	*100*		*31.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*28.7*			"	*50.0*		*57.4*	*10-108*			
Surrogate: Phenol-d5	*25.7*			"	*100*		*25.7*	*10-100*			
Surrogate: Terphenyl-dl4	*36.0*			"	*50.0*		*72.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C27020-BSD1)											
Acenaphthene	66.6	1.13	10.0	ug/L	100		66.6	34.2-100	1.16	40	
Acenaphthylene	79.3	1.07	10.0	"	100		79.3	25.3-109	2.54	40	
Anthracene	68.4	0.99	10.0	"	100		68.4	35.2-100	2.10	40	
Benzo (a) anthracene	64.1	0.87	10.0	"	100		64.1	35.2-100	2.96	40	
Benzo (b) fluoranthene	61.8	1.03	10.0	"	100		61.8	30.2-101	3.59	40	
Benzo (k) fluoranthene	61.7	1.01	10.0	"	100		61.7	29.8-101	5.96	40	
Benzo (a) pyrene	63.9	0.98	10.0	"	100		63.9	32.8-105	2.18	40	
Bis(2-ethylhexyl)phthalate	63.1	1.14	10.0	"	100		63.1	23.6-121	1.81	40	
Carbazole	88.4	0.90	10.0	"	100		88.4	10-145	2.50	40	
4-Chloro-3-methylphenol	76.2	1.04	10.0	"	100		76.2	39.5-100	6.49	40	
Chrysene	69.7	0.92	10.0	"	100		69.7	14.3-109	1.17	40	
Dibenz (a,h) anthracene	72.5	0.67	10.0	"	100		72.5	15.2-113	3.49	40	
Dibenzofuran	70.9	1.04	10.0	"	100		70.9	35-100	0.113	40	
2,4-Dimethylphenol	57.1	0.84	10.0	"	100		57.1	32.5-100	4.00	40	
2,4-Dinitrophenol	88.0	3.05	10.0	"	100		88.0	10-133	1.59	40	
Di-n-octyl phthalate	52.9	1.35	10.0	"	100		52.9	10-127	3.66	40	
Fluoranthene	76.4	0.93	10.0	"	100		76.4	19.8-125	1.62	40	
Fluorene	71.3	1.01	10.0	"	100		71.3	31.2-105	2.05	40	
Indeno (1,2,3-cd) pyrene	83.1	0.89	10.0	"	100		83.1	25.2-107	3.80	40	
2-Methylnaphthalene	67.4	1.12	10.0	"	100		67.4	22.3-100	1.07	40	
2-Methylphenol	54.0	0.88	10.0	"	100		54.0	28.1-100	5.46	40	
3 & 4-Methylphenol	96.7	0.87	10.0	"	200		48.4	24.5-100	4.24	40	
Naphthalene	60.8	1.09	10.0	"	100		60.8	23.4-100	3.45	40	
Pentachlorophenol	88.4	2.72	10.0	"	100		88.4	10-102	5.92	40	
Phenanthrene	70.7	0.93	10.0	"	100		70.7	34.8-100	1.94	40	
Pyrene	61.8	1.09	10.0	"	100		61.8	10-124	3.62	40	
2,4,6-Trichlorophenol	75.6	2.58	10.0	"	100		75.6	38.3-100	3.47	40	
Surrogate: 2,4,6-Tribromophenol	*122*			"	*100*		*122*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*34.4*			"	*50.0*		*68.8*	*14.6-104*			
Surrogate: 2-Fluorophenol	*33.1*			"	*100*		*33.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.9*			"	*50.0*		*59.7*	*10-108*			
Surrogate: Phenol-d5	*26.7*			"	*100*		*26.7*	*10-100*			
Surrogate: Terphenyl-dl4	*37.0*			"	*50.0*		*73.9*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C27020-DUP1)			**Source: 2303327-04**								
Acenaphthene	246	11.8	105	ug/L		201			20.2	45	
Acenaphthylene	ND	1.12	10.5	"		ND				45	
Anthracene	ND	1.03	10.5	"		ND				45	
Benzo (a) anthracene	ND	0.91	10.5	"		ND				45	
Benzo (b) fluoranthene	ND	1.08	10.5	"		ND				45	
Benzo (k) fluoranthene	ND	1.06	10.5	"		ND				45	
Benzo (a) pyrene	ND	1.02	10.5	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.5	"		ND				45	
Carbazole	576	9.39	105	"		426			29.9	45	
4-Chloro-3-methylphenol	ND	1.09	10.5	"		ND				45	
Chrysene	ND	0.97	10.5	"		ND				45	
Dibenz (a,h) anthracene	ND	0.70	10.5	"		ND				45	
Dibenzofuran	104	1.09	10.5	"		73.4			34.8	45	
2,4-Dimethylphenol	ND	0.88	10.5	"		ND				45	
2,4-Dinitrophenol	ND	3.19	10.5	"		ND				45	
Di-n-octyl phthalate	ND	1.41	10.5	"		ND				45	CC-01
Fluoranthene	ND	0.98	10.5	"		ND				45	
Fluorene	132	10.6	105	"		95.7			32.2	45	
Indeno (1,2,3-cd) pyrene	ND	0.93	10.5	"		ND				45	
2-Methylnaphthalene	30.6	1.17	10.5	"		31.2			1.79	45	
2-Methylphenol	ND	0.92	10.5	"		ND				45	
3 & 4-Methylphenol	ND	0.91	10.5	"		ND				45	
Naphthalene	1620	11.4	105	"		1690			4.07	45	
Pentachlorophenol	ND	2.85	10.5	"		ND				45	
Phenanthrene	57.1	0.97	10.5	"		47.4			18.6	45	
Pyrene	ND	1.14	10.5	"		ND				45	
2,4,6-Trichlorophenol	ND	2.70	10.5	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*108*			"	*105*		*103*	*15.8-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*35.7*			"	*52.4*		*68.2*	*14.6-104*			
Surrogate: 2-Fluorophenol	*22.7*			"	*105*		*21.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*13.5*			"	*52.4*		*25.8*	*10-108*			
Surrogate: Phenol-d5	*20.0*			"	*105*		*19.1*	*10-100*			
Surrogate: Terphenyl-dl4	*34.0*			"	*52.4*		*65.0*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C27020 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C27020-MS1)		**Source: 2303327-04**									
Acenaphthene	296	11.6	103	ug/L	103	201	93.0	10-127			
Acenaphthylene	76.1	1.10	10.3	"	103	ND	74.2	25.9-100			
Anthracene	72.4	1.01	10.3	"	103	ND	70.6	22.8-100			
Benzo (a) anthracene	48.5	0.89	10.3	"	103	ND	47.3	29.4-100			
Benzo (b) fluoranthene	35.5	1.06	10.3	"	103	ND	34.6	14.6-103			
Benzo (k) fluoranthene	41.7	1.04	10.3	"	103	ND	40.6	20.3-100			
Benzo (a) pyrene	35.0	1.00	10.3	"	103	ND	34.1	25.9-100			
Bis(2-ethylhexyl)phthalate	44.7	1.17	10.3	"	103	ND	43.5	13.2-100			
Carbazole	586	9.20	103	"	103	426	156	10-171			
4-Chloro-3-methylphenol	47.5	1.07	10.3	"	103	ND	46.3	27.9-100			
Chrysene	50.3	0.95	10.3	"	103	ND	49.0	10-100			
Dibenz (a,h) anthracene	31.4	0.69	10.3	"	103	ND	30.6	10-114			
Dibenzofuran	154	10.7	103	"	103	73.4	78.9	10-105			
2,4-Dimethylphenol	54.7	0.86	10.3	"	103	ND	53.3	17.4-100			
2,4-Dinitrophenol	28.4	3.13	10.3	"	103	ND	27.7	10-131			
Di-n-octyl phthalate	45.2	1.38	10.3	"	103	ND	44.1	10-112			CC-03
Fluoranthene	79.4	0.96	10.3	"	103	ND	77.4	14-111			
Fluorene	177	10.4	103	"	103	95.7	79.3	10-111			
Indeno (1,2,3-cd) pyrene	28.1	0.91	10.3	"	103	ND	27.4	12.1-106			
2-Methylnaphthalene	83.3	1.15	10.3	"	103	31.2	50.8	10-106			
2-Methylphenol	48.8	0.90	10.3	"	103	ND	47.5	21.1-100			
3 & 4-Methylphenol	97.5	0.89	10.3	"	205	ND	47.5	19.5-100			
Naphthalene	2640	112	1030	"	103	1690	926	20-100			M5
Pentachlorophenol	95.8	2.79	10.3	"	103	ND	93.4	10-111			
Phenanthrene	130	9.52	103	"	103	47.4	80.4	12-108			
Pyrene	52.8	1.12	10.3	"	103	ND	51.5	10-119			
2,4,6-Trichlorophenol	74.2	2.65	10.3	"	103	ND	72.4	31.4-100			
Surrogate: 2,4,6-Tribromophenol	*86.1*			"	*103*		*83.9*	*15.8-107*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*27.9*			"	*51.3*		*54.4*	*14.6-104*			
Surrogate: 2-Fluorophenol	*17.2*			"	*103*		*16.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*5.33*			"	*51.3*		*10.4*	*10-108*			
Surrogate: Phenol-d5	*19.3*			"	*103*		*18.8*	*10-100*			
Surrogate: Terphenyl-dl4	*27.6*			"	*51.3*		*53.8*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D06028 - EPA 5030B											
Blank (3D06028-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.3*			"	*50.0*		*98.6*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.7*			"	*50.0*		*97.4*	*80.2-119*			
Surrogate: Toluene-d8	*48.3*			"	*50.0*		*96.7*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.8*	*76.1-131*			
Blank (3D06028-BLK2)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.0*			"	*50.0*		*98.1*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.4*			"	*50.0*		*96.8*	*80.2-119*			
Surrogate: Toluene-d8	*47.8*			"	*50.0*		*95.6*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*76.1-131*			
LCS (3D06028-BS1)											
Benzene	28.8	0.258	5.00	ug/L	25.0		115	68-136			
Ethylbenzene	27.3	0.190	5.00	"	25.0		109	70.3-136			
Surrogate: Dibromofluoromethane	*52.0*			"	*50.0*		*104*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.2*			"	*50.0*		*96.5*	*80.2-119*			
Surrogate: Toluene-d8	*48.9*			"	*50.0*		*97.8*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*49.6*			"	*50.0*		*99.3*	*76.1-131*			
LCS (3D06028-BS2)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.5	68-136			
Ethylbenzene	17.9	0.190	5.00	"	20.0		89.3	70.3-136			
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*50.0*			"	*50.0*		*100*	*80.2-119*			
Surrogate: Toluene-d8	*48.9*			"	*50.0*		*97.7*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.9*			"	*50.0*		*102*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D06028 - EPA 5030B											
LCS Dup (3D06028-BSD1)											
Benzene	28.1	0.258	5.00	ug/L	25.0		113	68-136	2.18	30	
Ethylbenzene	26.8	0.190	5.00	"	25.0		107	70.3-136	1.77	30	
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.6*			"	*50.0*		*97.2*	*80.2-119*			
Surrogate: Toluene-d8	*49.5*			"	*50.0*		*99.0*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.0*			"	*50.0*		*99.9*	*76.1-131*			
LCS Dup (3D06028-BSD2)											
Benzene	19.4	0.258	5.00	ug/L	20.0		97.1	68-136	2.39	30	
Ethylbenzene	17.8	0.190	5.00	"	20.0		88.9	70.3-136	0.449	30	
Surrogate: Dibromofluoromethane	*50.2*			"	*50.0*		*100*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.8*	*80.2-119*			
Surrogate: Toluene-d8	*48.4*			"	*50.0*		*96.9*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.7*			"	*50.0*		*101*	*76.1-131*			
Matrix Spike (3D06028-MS1)			**Source: 2303414-02**								
Benzene	27.2	0.258	5.00	ug/L	25.0	0.860	105	68-144			
Ethylbenzene	33.3	0.190	5.00	"	25.0	10.2	92.5	69.2-134			
Surrogate: Dibromofluoromethane	*51.2*			"	*50.0*		*102*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.1*			"	*50.0*		*96.1*	*80.2-119*			
Surrogate: Toluene-d8	*49.7*			"	*50.0*		*99.5*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*51.0*			"	*50.0*		*102*	*76.1-131*			
Matrix Spike Dup (3D06028-MSD1)			**Source: 2303414-02**								
Benzene	26.9	0.258	5.00	ug/L	25.0	0.860	104	68-144	1.07	35	
Ethylbenzene	33.8	0.190	5.00	"	25.0	10.2	94.5	69.2-134	1.52	35	
Surrogate: Dibromofluoromethane	*51.2*			"	*50.0*		*102*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.3*			"	*50.0*		*96.6*	*80.2-119*			
Surrogate: Toluene-d8	*49.9*			"	*50.0*		*99.8*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 2023 Project Manager: Ethan Allen	**Reported:** 04/19/2023 07:41

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 2023 Project Manager: Ethan Allen	**Reported:** 04/19/2023 07:41

2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 2023
Project Manager: Ethan Allen

Reported:
04/19/2023 07:41

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2023*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2023*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project:	Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number:	2023	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager:	Ethan Allen	04/19/2023 07:41

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2303414

Company Name: Carnham Forest Ind
Address: P.O. Box 15369
City: Hattiesburg State: MS Zip: 39404
Phone: 601-544-3674
Fax: 601-544-0504

Project Manager: Ethan Allen
Purchase Order #:
Email Address: EALLEN@ENV-MGT.com
Sampler Name Printed: Kaleb Atkins
Sampler Name Signed:

Project Name: Mobile CFI 1st Qtr 2023
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	Preservative:	PH, COND	Chloride	Nitrate	Ammonia	Metals	BNA	VOA
E-1	3-23-23/1045	W	9	G		X	X	X	X	X	X	X
RC-2A	3-23-23/1110	W	11	G		X	X	X	X	X	X	X
RC-2	3-23-23/1125	W	7	G		X	X	X	X	X	X	X
RC-3A	3-23-23/1210	W	11	G		X	X	X	X	X	X	X
B-65	3-23-23/1600	W	9	G		X	X	X	X	X	X	X
TBV #07104 (8)	3-23-23/1045	W	2									X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: Y N Thermometer# 8 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample____ Blank X Cooler____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Kaleb Atkins		EMS	3/23/23	1700
Received by	James P Davis		EMS	3/23/23	1700
Relinquished by	James P Davis		EMS	3/24/23	0940
Received by	Sarah Tomek		MM	3/24/23	0940
Relinquished by					
Received by					

Notes:
Cooler #1103 0.4°c
cooler #client 0.0°-

DCN F316 Rev.6
MicroMethods Laboratory
Issued/Revised 6/15/22

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 24, 2023

Ethan Allen

Work Order # : 2303451

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 03/27/2023 15:06. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/T-1	2303451-01	Water	03/27/2023 09:55	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-5	2303451-02	Water	03/27/2023 10:15	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-4	2303451-03	Water	03/27/2023 10:30	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-8A	2303451-04	Water	03/27/2023 11:00	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-11	2303451-05	Water	03/27/2023 12:30	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-12	2303451-06	Water	03/27/2023 12:40	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-13	2303451-07	Water	03/27/2023 12:52	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-6	2303451-08	Water	03/27/2023 13:10	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/RW-7	2303451-09	Water	03/27/2023 13:22	*Jeff Gonsoulin*	03/27/2023 15:06
Mobile/B-60A	2303451-10	Water	03/27/2023 13:05	*Jeff Gonsoulin*	03/27/2023 15:06
Trip Blank TBV#7105	2303451-11	Water	03/27/2023 09:55	*Micro Methods*	03/27/2023 15:06

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Sample Receipt Conditions

Date/Time Received: 3/27/2023 3:06:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 3/28/2023 8:18:00AM
Cooler ID: #1103

Shipped by: Client Delivery
Submitted by: Kaleb Atkins
Logged by: Sarah E. Tomek
Receipt Temperature: -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Cooler ID: #1135

Receipt Temperature: 0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Cooler ID: #1146

Receipt Temperature: 0.5 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/24/2023 10:32

Cooler ID: #685 **Receipt Temperature:** -0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/24/2023 10:32

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/24/2023 10:32

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

B-10 The analyte value in the BLK or CCB is >=1/2xMRL but <MRL.

Naphthalene

3C30004-BLK1

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4,6-Trichlorophenol, 2,4-Dinitrophenol, 2-Methylphenol, Bis(2-ethylhexyl)phthalate, Di-n-octyl phthalate

2303451-06[Mobile/RW-12], 2303451-09[Mobile/RW-7], 3D03032-BLK1, 2303451-05[Mobile/RW-11], 2303451-01[Mobile/T-1], 2303451-08[Mobile/RW-6], 3C31004-BLK1, 3C31004-DUP1, 3D03032-DUP1

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, 2,4,6-Trichlorophenol, Bis(2-ethylhexyl)phthalate, Di-n-octyl phthalate

3C31004-BLK1, 3C31004-BS1, 3C31004-BSD1, 3C31004-DUP1, 3D03032-BS1, 3D03032-BSD1

DL-6 Dilution required. Lowest achievable MRL due to matrix interterence.

2,4,6-Trichlorophenol, 2,4-Dinitrophenol, Acenaphthylene

2303451-08[Mobile/RW-6]

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 3 & 4-Methylphenol, 4-Chloro-3-methylphenol, Anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Bis(2-ethylhexyl)phthalate, Carbazole, Dibenzofuran, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Phenanthrene

2303451-08[Mobile/RW-6], 2303451-06[Mobile/RW-12], 2303451-07[Mobile/RW-13], 2303451-05[Mobile/RW-11], 2303451-09[Mobile/RW-7]

L3 LCS/LCSD Precision Limit exceeded.

Fluoranthene, Naphthalene

3C30004-BSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

1-Methylnaphthalene, Acenaphthene, Fluoranthene, Fluorene, Naphthalene, Phenanthrene, Pyrene

3C31004-MS1, 3C30004-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenzofuran, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Pentachlorophenol, Phenanthrene, Pyrene

3C31004-DUP1, 3C30004-DUP1, 3D03032-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/24/2023 10:32

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2303451-01[Mobile/T-1], 2303451-02[Mobile/RW-5], 2303451-03[Mobile/RW-4], 2303451-04[Mobile/RW-8A], 2303451-05[Mobile/RW-11], 2303451-06[Mobile/RW-12], 2303451-07[Mobile/RW-13], 2303451-08[Mobile/RW-6], 2303451-09[Mobile/RW-7], 2303451-10[Mobile/B-60A], 3C28047-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/T-1

2303451-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:31	Lachat 10-107-06-1-I	
Chloride	ND	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**8.30**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Specific Conductance (EC)	**197**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C29005	GWG	03/29/2023 09:00	03/31/2023 13:45	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.16	10.3	ug/L	1.0	3D03032	CRLV	04/03/2023 09:36	04/17/2023 16:10	EPA 8270D	
Acenaphthylene	ND	1.10	10.3	"	"	"	CRLV	"	"	"	
Anthracene	**11.3**	1.02	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**74.1**	0.90	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**60.5**	1.06	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**23.8**	1.04	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**31.8**	1.01	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.18	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.92	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
Chrysene	**55.6**	0.95	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.87	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.14	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.39	10.3	"	"	"	CRLV	"	"	"	CC-01
Fluoranthene	**359**	20.7	103	"	10.0	"	CRLV	"	04/14/2023 06:09	"	
Fluorene	ND	1.04	10.3	"	1.0	"	CRLV	"	04/17/2023 16:10	"	
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.15	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.91	10.3	"	"	"	CRLV	"	"	"	CC-01
3 & 4-Methylphenol	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.80	10.3	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/T-1

2303451-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Phenanthrene	**23.5**	0.96	10.3	"	1.0	3D03032	CRLV	04/03/2023 09:36	"	"	
Pyrene	**321**	30.2	103	"	10.0	"	CRLV	"	04/14/2023 06:09	"	
2,4,6-Trichlorophenol	ND	2.66	10.3	"	1.0	"	CRLV	"	04/17/2023 16:10	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	63.4	*61.5 %*	*15.8-107*	"	CRLV	"	*04/14/2023 06:09*	"	
2-Fluorobiphenyl	28.1	*54.6 %*	*14.6-104*	"	CRLV	"	"	"	
2-Fluorophenol	21.8	*21.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	17.0	*33.0 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	16.5	*16.0 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	17.9	*34.8 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 18:10	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.8	*95.6 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.8	*95.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.0	*100 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.5	*97.0 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-5

2303451-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.38**	0.02	0.15	ug/L	1.0	3C30004	CRLV	03/30/2023 08:41	03/31/2023 09:33	EPA 8270D	
2-Methylnaphthalene	**0.16**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.13**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	**0.18**	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.59**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	**0.08**	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.44**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.24**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.09**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.07**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.08**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0722	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.103	*50.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.124	*60.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:32	Lachat 10-107-06-1-I	
Chloride	ND	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**7.17**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Specific Conductance (EC)	**97**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Nitrate as N	**0.54**	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C29005	GWG	03/29/2023 09:00	03/31/2023 13:50	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-5

2303451-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	ug/L	1.0	3C31004	CRLV	03/31/2023 08:31	04/05/2023 09:20	EPA 8270D	
Carbazole	ND	2.69	8.06	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.56	1.69	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.23	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.08	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.48	4.43	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.74	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.16	3.48	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.03	1.03	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.31	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	4.89	*47.7 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.84	*35.8 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	3.73	*36.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.88	*56.2 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	3.89	*37.9 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	1.65	*32.2 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 18:34	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.9	*91.9 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.5	*95.0 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.3	*101 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.4	*94.7 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-4

2303451-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
2-Methylnaphthalene	**0.61**	0.05	0.05	ug/L	1.0	3C30004	CRLV	03/30/2023 08:41	03/31/2023 15:08	EPA 8270D	
Acenaphthylene	**0.27**	0.01	0.06	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.32**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	**0.06**	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.12**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.05**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0632	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.116	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.0947	*45.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.86**	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:33	Lachat 10-107-06-1-I	
Chloride	**53.1**	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**6.72**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Specific Conductance (EC)	**363**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C29005	GWG	03/29/2023 09:00	03/31/2023 13:54	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-4

2303451-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**7.80**	0.09	1.10	ug/L	1.0	3C31004	CRLV	03/31/2023 08:31	04/05/2023 04:34	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.36	1.10	"	"	"	CRLV	"	"	"	
Carbazole	**24.5**	20.3	20.3	"	10.0	"	CRLV	"	04/06/2023 13:59	"	
4-Chloro-3-methylphenol	ND	0.56	1.68	"	1.0	"	CRLV	"	04/05/2023 04:34	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.35	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.46	4.39	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	
Fluorene	**2.79**	0.11	1.21	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.44	"	"	"	CRLV	"	"	"	
Naphthalene	**13.3**	0.09	1.01	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	**4.30**	0.05	1.30	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	8.62	*84.9 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.94	*58.0 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	3.93	*38.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.16	*42.6 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	1.44	*14.2 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	2.06	*40.6 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 18:58	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.1	*92.1 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.2	*94.5 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.5	*101 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.5	*97.0 %*	*76.1-131*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-8A

2303451-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
2-Methylnaphthalene	**0.69**	0.05	0.05	ug/L	1.0	3C30004	CRLV	03/30/2023 08:41	03/31/2023 15:50	EPA 8270D	
Acenaphthylene	**0.11**	0.01	0.06	"	"	"	CRLV	"	"	"	
Anthracene	**0.17**	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.35**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.16**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0615	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0923	*45.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.0923	*45.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**4.49**	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:34	Lachat 10-107-06-1-I	
Chloride	**95.6**	0.08	10.0	"	2.0	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**10.7**			pH Units	1.0	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Specific Conductance (EC)	**716**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00210**	0.00078	0.00200	mg/L	1.0	3C29005	GWG	03/29/2023 09:00	03/31/2023 13:58	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00180**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00418**	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-8A

2303451-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**8.54**	0.09	1.14	ug/L	1.0	3C31004	CRLV	03/31/2023 08:31	04/05/2023 09:56	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.14	"	"	"	CRLV	"	"	"	
Carbazole	ND	2.77	8.32	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.58	1.75	"	"	"	CRLV	"	"	"	
Dibenzofuran	**1.80**	0.42	1.27	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.37	1.11	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.52	4.57	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.60	1.80	"	"	"	CRLV	"	"	"	
Fluorene	**2.60**	0.11	1.26	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.44	1.31	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.20	3.59	"	"	"	CRLV	"	"	"	
Naphthalene	**2.91**	0.09	1.05	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.06	1.06	"	"	"	CRLV	"	"	"	
Phenanthrene	**2.11**	0.10	1.27	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.47	1.40	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.35	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	8.00	*75.6 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	3.05	*57.6 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	5.19	*49.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.39	*64.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	5.01	*47.3 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	2.04	*38.6 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 19:21	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.2	*92.4 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.8	*97.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.1	*100 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.6	*97.3 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-11

2303451-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**9.02**	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:36	Lachat 10-107-06-1-I	
Chloride	**41.9**	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**7.71**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Specific Conductance (EC)	**1010**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**72.2**	1.16	10.3	ug/L	1.0	3D03032	CRLV	04/03/2023 09:36	04/14/2023 09:13	EPA 8270D	
Acenaphthylene	**18.9**	1.10	10.3	"	"	"	CRLV	"	"	"	
Anthracene	**16.2**	1.01	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**37.3**	0.89	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**81.6**	1.06	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**34.9**	1.04	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**42.8**	1.00	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.17	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**2.10**	0.92	10.3	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
Chrysene	**32.4**	0.95	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**3.63**	1.07	10.3	"	"	"	CRLV	"	"	"	J
2,4-Dimethylphenol	ND	0.86	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.13	10.3	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	1.38	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**156**	0.96	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**7.84**	1.04	10.3	"	"	"	CRLV	"	"	"	J
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.15	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.79	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	**13.3**	0.95	10.3	"	"	"	CRLV	"	"	"	
Pyrene	**79.2**	1.12	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.65	10.3	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-11

2303451-05 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Surrogate	*Result*		*% Rec*	*Rec Limits*		*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	70.2		*68.4 %*	*15.8-107*		*3D03032*	CRLV	*04/03/2023 09:36*	"	"	
2-Fluorobiphenyl	34.5		*67.3 %*	*14.6-104*		"	CRLV	"	"	"	
2-Fluorophenol	45.4		*44.3 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	14.6		*28.4 %*	*10-108*		"	CRLV	"	"	"	
Phenol-d5	34.6		*33.7 %*	*10-100*		"	CRLV	"	"	"	
Terphenyl-dl4	24.1		*47.0 %*	*10-100*		"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 19:45	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	*Result*		*% Rec*	*Rec Limits*		*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.2		*94.4 %*	*77.2-120*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.6		*95.2 %*	*80.2-119*		"	BSF	"	"	"	
Toluene-d8	49.6		*99.2 %*	*73-122*		"	BSF	"	"	"	
4-Bromofluorobenzene	48.1		*96.1 %*	*76.1-131*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-12

2303451-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.93**	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:37	Lachat 10-107-06-1-I	
Chloride	**31.1**	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**7.29**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Specific Conductance (EC)	**828**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**35.0**	1.15	10.2	ug/L	1.0	3D03032	CRLV	04/03/2023 09:36	04/11/2023 09:07	EPA 8270D	
Acenaphthylene	ND	1.09	10.2	"	"	"	CRLV	"	"	"	
Anthracene	**1.27**	1.01	10.2	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.05	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.03	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.00	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.92	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.06	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.94	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.68	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.06	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.86	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.11	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.38	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**2.59**	0.95	10.2	"	"	"	CRLV	"	"	"	J
Fluorene	**17.7**	1.03	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.90	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.14	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.90	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.11	10.2	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.78	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	**1.88**	0.95	10.2	"	"	"	CRLV	"	"	"	J
Pyrene	ND	1.11	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.63	10.2	"	"	"	CRLV	"	"	"	CC-01

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-12

2303451-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	95.7	*93.8 %*	*15.8-107*			*3D03032*	CRLV	*04/03/2023 09:36*	"	"	
2-Fluorobiphenyl	23.3	*45.7 %*	*14.6-104*			"	CRLV	"	"	"	
2-Fluorophenol	22.9	*22.5 %*	*10-100*			"	CRLV	"	"	"	
Nitrobenzene-d5	18.5	*36.2 %*	*10-108*			"	CRLV	"	"	"	
Phenol-d5	17.4	*17.1 %*	*10-100*			"	CRLV	"	"	"	
Terphenyl-dl4	14.5	*28.5 %*	*10-100*			"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 20:09	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	48.9	*97.9 %*	*77.2-120*			"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.9	*95.7 %*	*80.2-119*			"	BSF	"	"	"	
Toluene-d8	49.3	*98.7 %*	*73-122*			"	BSF	"	"	"	
4-Bromofluorobenzene	47.7	*95.3 %*	*76.1-131*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-13

2303451-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.03**	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:57	Lachat 10-107-06-1-I	
Chloride	**33.0**	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**7.47**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Specific Conductance (EC)	**465**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.93	10.4	ug/L	1.0	3D03032	CRLV	04/03/2023 09:36	04/14/2023 07:27	EPA 8270D	
Acenaphthylene	ND	2.29	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	2.29	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	2.44	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**8.44**	2.56	10.4	"	"	"	CRLV	"	"	"	J
Benzo (k) fluoranthene	**8.85**	3.03	10.4	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	**5.59**	2.73	10.4	"	"	"	CRLV	"	"	"	J
Bis(2-ethylhexyl)phthalate	ND	3.19	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	3.48	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	2.47	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	2.35	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	1.47	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	2.16	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.31	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.73	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.54	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	2.09	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	2.31	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**5.40**	2.59	10.4	"	"	"	CRLV	"	"	"	J
2-Methylnaphthalene	ND	2.20	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	1.85	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.80	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	2.03	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	3.10	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	2.54	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	3.05	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.04	10.4	"	"	"	CRLV	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-13

2303451-07 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
2,4,6-Tribromophenol	85.8		*82.4 %*	*15.8-107*		*3D03032*	CRLV	*04/03/2023 09:36*	"	"	
2-Fluorobiphenyl	32.2		*61.7 %*	*14.6-104*		"	CRLV	"	"	"	
2-Fluorophenol	27.0		*25.9 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	22.9		*44.1 %*	*10-108*		"	CRLV	"	"	"	
Phenol-d5	23.4		*22.4 %*	*10-100*		"	CRLV	"	"	"	
Terphenyl-dl4	20.6		*39.5 %*	*10-100*		"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 20:32	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	Result	% Rec	Rec Limits	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Dibromofluoromethane	46.3	*92.7 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.4	*92.8 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.4	*98.8 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.8	*95.6 %*	*76.1-131*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-6

2303451-08 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**3.28**	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:39	Lachat 10-107-06-1-I	
Chloride	**9.51**	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**8.32**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Specific Conductance (EC)	**352**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-6

2303451-08 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**657**	18.9	102	ug/L	10.0	3D03032	CRLV	04/03/2023 09:36	04/14/2023 04:13	EPA 8270D	
Acenaphthylene	ND	22.4	102	"	"	"	CRLV	"	"	"	DL-6
Anthracene	**299**	22.4	102	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**120**	23.9	102	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**63.5**	1.05	10.2	"	1.0	"	CRLV	"	04/19/2023 16:53	"	
Benzo (k) fluoranthene	**40.4**	1.03	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**67.8**	1.00	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**1.90**	1.16	10.2	"	"	"	CRLV	"	"	"	CC-01, J
Carbazole	**187**	34.1	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	
4-Chloro-3-methylphenol	**1.66**	1.06	10.2	"	1.0	"	CRLV	"	04/19/2023 16:53	"	J
Chrysene	**128**	23.1	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	
Dibenz (a,h) anthracene	**13.2**	0.68	10.2	"	1.0	"	CRLV	"	04/19/2023 16:53	"	
Dibenzofuran	**372**	21.1	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	
2,4-Dimethylphenol	**0.97**	0.86	10.2	"	1.0	"	CRLV	"	04/19/2023 16:53	"	J
2,4-Dinitrophenol	ND	26.7	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	DL-6
Di-n-octyl phthalate	ND	1.38	10.2	"	1.0	"	CRLV	"	04/19/2023 16:53	"	CC-01
Fluoranthene	**1560**	95.3	1020	"	100.0	"	CRLV	"	04/14/2023 02:54	"	
Fluorene	**532**	22.7	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	
Indeno (1,2,3-cd) pyrene	**39.9**	0.90	10.2	"	1.0	"	CRLV	"	04/19/2023 16:53	"	
2-Methylnaphthalene	**383**	21.5	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	
2-Methylphenol	ND	0.90	10.2	"	1.0	"	CRLV	"	04/19/2023 16:53	"	
3 & 4-Methylphenol	**2.89**	0.89	10.2	"	"	"	CRLV	"	"	"	J
Naphthalene	**554**	19.9	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	
Pentachlorophenol	**600**	30.4	102	"	"	"	CRLV	"	"	"	
Phenanthrene	**1490**	94.7	1020	"	100.0	"	CRLV	"	04/14/2023 02:54	"	
Pyrene	**596**	29.9	102	"	10.0	"	CRLV	"	04/14/2023 04:13	"	
2,4,6-Trichlorophenol	ND	20.0	102	"	"	"	CRLV	"	"	"	DL-6

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	80.7	*79.1 %*	*15.8-107*	"	CRLV	"	"	"	
2-Fluorobiphenyl	34.8	*68.2 %*	*14.6-104*	"	CRLV	"	"	"	
2-Fluorophenol	27.0	*26.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	20.7	*40.6 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	21.8	*21.4 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	19.6	*38.4 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-6

2303451-08 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**11.6**	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 20:56	EPA 8260D	
Ethylbenzene	**257**	1.90	50.0	"	10.0	"	BSF	"	04/06/2023 17:54	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.9	*93.8 %*	*77.2-120*	"	BSF	"	*04/05/2023 20:56*	"	
1,2-Dichloroethane-d4	47.3	*94.6 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.1	*98.3 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.7	*99.3 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-7

2303451-09 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:40	Lachat 10-107-06-1-I	
Chloride	ND	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**9.15**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Specific Conductance (EC)	**441**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Nitrate as N	ND	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.20	10.6	ug/L	1.0	3D03032	CRLV	04/03/2023 09:36	04/11/2023 19:35	EPA 8270D	
Acenaphthylene	ND	1.14	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.05	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.93	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.10	10.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.07	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.04	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.21	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.95	10.6	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.11	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.98	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.71	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.11	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.89	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.24	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.44	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	**1.05**	0.99	10.6	"	"	"	CRLV	"	"	"	J
Fluorene	ND	1.07	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.94	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.19	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.94	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.93	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.16	10.6	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.89	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.99	10.6	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.16	10.6	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.74	10.6	"	"	"	CRLV	"	"	"	CC-01

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/RW-7

2303451-09 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Surrogate	*Result*		*% Rec*	*Rec Limits*		*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	80.7		*75.9 %*	*15.8-107*		*3D03032*	CRLV	*04/03/2023 09:36*	"	"	
2-Fluorobiphenyl	29.8		*56.0 %*	*14.6-104*		"	CRLV	"	"	"	
2-Fluorophenol	19.8		*18.6 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	14.6		*27.4 %*	*10-108*		"	CRLV	"	"	"	
Phenol-d5	12.5		*11.7 %*	*10-100*		"	CRLV	"	"	"	
Terphenyl-dl4	22.0		*41.4 %*	*10-100*		"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 21:19	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	*Result*		*% Rec*	*Rec Limits*		*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.8		*91.5 %*	*77.2-120*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.3		*92.7 %*	*80.2-119*		"	BSF	"	"	"	
Toluene-d8	50.0		*100 %*	*73-122*		"	BSF	"	"	"	
4-Bromofluorobenzene	48.7		*97.4 %*	*76.1-131*		"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/B-60A

2303451-10 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.28**	0.02	0.15	ug/L	1.0	3C30004	CRLV	03/30/2023 08:41	03/31/2023 16:32	EPA 8270D	
2-Methylnaphthalene	**0.10**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.07**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.21**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.10**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.06**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0714	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.102	*50.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.112	*55.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	ND	0.04	0.21	mg/L	1.0	3C29015	CRG	03/28/2023 14:30	03/29/2023 10:41	Lachat 10-107-06-1-I	
Chloride	**11.5**	0.04	5.00	"	"	3C30018	DLW	03/30/2023 11:15	03/30/2023 14:09	ASTM D 512-12	
pH	**5.80**			pH Units	"	3C28047	JBM	03/28/2023 15:03	03/28/2023 15:04	SM 4500-H+B-2011	
Specific Conductance (EC)	**210**			umhos/cm @25.0 C	"	3C28041	JBM	03/28/2023 13:45	03/28/2023 13:49	SM 2510 B-2011	
Nitrate as N	**2.82**	0.10	0.50	mg/L	"	3C28040	ASC	03/28/2023 13:13	03/28/2023 13:16	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3C29005	GWG	03/29/2023 09:00	03/31/2023 14:03	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00163**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Mobile/B-60A

2303451-10 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.36	1.10	ug/L	1.0	3C31004	CRLV	03/31/2023 08:31	04/05/2023 10:31	EPA 8270D	
Carbazole	ND	2.66	7.98	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.56	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.35	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.46	4.39	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.58	1.73	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.44	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.02	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.30	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.33	*72.2 %*	*19.2-121*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.71	*53.4 %*	*15.3-102*	"	CRLV	"	"	"	
2-Fluorophenol	3.26	*32.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.75	*73.8 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	3.48	*34.3 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	2.51	*49.4 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 21:43	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.0	*94.0 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.7	*95.4 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.3	*98.5 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.1	*94.2 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Trip Blank TBV#7105

2303451-11 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D06028	BSF	04/05/2023 08:00	04/05/2023 22:06	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.9	*91.8 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.7	*93.4 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	50.4	*101 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.1	*96.3 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C30004 - EPA 3510C DCN 4000 Rev 12											
Blank (3C30004-BLK1)											
Naphthalene	ND	0.02	0.15	ug/L							B-10
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0600*			"	*0.200*		*30.0*	*11.7-131*			
Surrogate: Nitrobenzene-d5	*0.0900*			"	*0.200*		*45.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-166*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C30004 - EPA 3510C DCN 4000 Rev 12											
LCS (3C30004-BS1)											
Naphthalene	0.16	0.02	0.15	ug/L	0.200		80.0	10-145			
2-Methylnaphthalene	0.11	0.05	0.05	"	0.200		55.0	50-150			
Acenaphthylene	0.10	0.01	0.06	"	0.200		50.0	10-147			
Acenaphthene	0.10	0.02	0.05	"	0.200		50.0	10-143			
Fluorene	0.12	0.02	0.12	"	0.200		60.0	10-150			
Phenanthrene	0.15	0.02	0.06	"	0.200		75.0	10-151			
Anthracene	0.11	0.02	0.06	"	0.200		55.0	10-130			
Fluoranthene	0.17	0.03	0.06	"	0.200		85.0	10-155			
Pyrene	0.13	0.02	0.05	"	0.200		65.0	10-148			
Benzo (a) anthracene	0.13	0.02	0.06	"	0.200		65.0	38.5-141			
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150			
Benzo (b) fluoranthene	0.15	0.03	0.05	"	0.200		75.0	33.6-160			
Benzo (k) fluoranthene	0.09	0.02	0.05	"	0.200		45.0	33-159			
Benzo (a) pyrene	0.11	0.02	0.06	"	0.200		55.0	10-177			
Indeno (1,2,3-cd) pyrene	0.13	0.02	0.17	"	0.200		65.0	10.7-171			
Dibenz (a,h) anthracene	0.15	0.04	0.16	"	0.200		75.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0700*			"	*0.200*		*35.0*	*11.7-131*			
Surrogate: Nitrobenzene-d5	*0.110*			"	*0.200*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-166*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C30004 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C30004-BSD1)											
Naphthalene	0.27	0.02	0.15	ug/L	0.200		135	10-145	51.2	40	L3
2-Methylnaphthalene	0.16	0.05	0.05	"	0.200		80.0	50-150	37.0	40	
Acenaphthylene	0.12	0.01	0.06	"	0.200		60.0	10-147	18.2	40	
Acenaphthene	0.13	0.02	0.05	"	0.200		65.0	10-143	26.1	40	
Fluorene	0.17	0.02	0.12	"	0.200		85.0	10-150	34.5	40	
Phenanthrene	0.21	0.02	0.06	"	0.200		105	10-151	33.3	40	
Anthracene	0.14	0.02	0.06	"	0.200		70.0	10-130	24.0	40	
Fluoranthene	0.29	0.03	0.06	"	0.200		145	10-155	52.2	40	L3
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148	37.5	40	
Benzo (a) anthracene	0.17	0.02	0.06	"	0.200		85.0	38.5-141	26.7	40	
Chrysene	0.14	0.03	0.05	"	0.200		70.0	45.4-150	24.0	40	
Benzo (b) fluoranthene	0.15	0.03	0.05	"	0.200		75.0	33.6-160	0.00	40	
Benzo (k) fluoranthene	0.10	0.02	0.05	"	0.200		50.0	33-159	10.5	40	
Benzo (a) pyrene	0.13	0.02	0.06	"	0.200		65.0	10-177	16.7	40	
Indeno (1,2,3-cd) pyrene	0.14	0.02	0.17	"	0.200		70.0	10.7-171	7.41	40	
Dibenz (a,h) anthracene	0.16	0.04	0.16	"	0.200		80.0	16-164	6.45	40	
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-131*			
Surrogate: Nitrobenzene-d5	*0.120*			"	*0.200*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-166*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C30004 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C30004-DUP1)			**Source: 2303451-02**								
Naphthalene	0.17	0.02	0.15	ug/L		0.38			75.0	45	P3
2-Methylnaphthalene	0.10	0.05	0.05	"		0.16			47.1	45	P3
Acenaphthylene	ND	0.01	0.06	"		ND				45	
Acenaphthene	0.08	0.02	0.05	"		0.13			48.6	45	P3
Fluorene	0.07	0.02	0.12	"		0.18			84.2	45	P3
Phenanthrene	0.13	0.02	0.06	"		0.59			126	45	P3
Anthracene	ND	0.02	0.06	"		0.08			200	45	P3
Fluoranthene	0.12	0.03	0.06	"		0.44			113	45	P3
Pyrene	0.05	0.02	0.05	"		0.24			129	45	P3
Benzo (a) anthracene	ND	0.03	0.06	"		0.09			200	45	P3
Chrysene	ND	0.03	0.05	"		0.07			200	45	P3
Benzo (b) fluoranthene	0.03	0.03	0.05	"		0.08			91.7	45	P3
Benzo (k) fluoranthene	ND	0.03	0.05	"		ND				45	
Benzo (a) pyrene	ND	0.02	0.06	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"		ND				45	
Dibenz (a,h) anthracene	ND	0.04	0.16	"		ND				45	
Surrogate: 2-Fluorobiphenyl	*0.0918*			"	*0.204*		*45.0*	*11.7-131*			
Surrogate: Nitrobenzene-d5	*0.133*			"	*0.204*		*65.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.0918*			"	*0.204*		*45.0*	*11.3-166*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C30004 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C30004-MS1)		**Source: 2303451-02**									
Naphthalene	0.34	0.02	0.15	ug/L	0.206	0.38	NR	10-182			M5
2-Methylnaphthalene	0.19	0.05	0.05	"	0.206	0.16	10.0	0-200			
Acenaphthylene	0.10	0.01	0.06	"	0.206	ND	50.0	10-200			
Acenaphthene	0.18	0.02	0.05	"	0.206	0.13	20.0	10-200			
Fluorene	0.18	0.02	0.12	"	0.206	0.18	0.00	10-200			M5
Phenanthrene	0.18	0.02	0.06	"	0.206	0.59	NR	46.3-156			M5
Anthracene	0.12	0.02	0.06	"	0.206	0.08	20.0	12.9-149			
Fluoranthene	0.21	0.03	0.06	"	0.206	0.44	NR	10-200			M5
Pyrene	0.13	0.02	0.05	"	0.206	0.24	NR	10-191			M5
Benzo (a) anthracene	0.14	0.03	0.06	"	0.206	0.09	25.0	19.3-191			
Chrysene	0.11	0.03	0.05	"	0.206	0.07	20.0	16.5-166			
Benzo (b) fluoranthene	0.14	0.03	0.05	"	0.206	0.08	30.0	17.3-163			
Benzo (k) fluoranthene	0.08	0.03	0.05	"	0.206	ND	40.0	23.7-152			
Benzo (a) pyrene	0.10	0.02	0.06	"	0.206	ND	50.0	10-200			
Indeno (1,2,3-cd) pyrene	0.12	0.03	0.18	"	0.206	ND	60.0	10-189			
Dibenz (a,h) anthracene	0.13	0.04	0.16	"	0.206	ND	65.0	51.1-147			
Surrogate: 2-Fluorobiphenyl	*0.0722*			"	*0.206*		*35.0*	*11.7-131*			
Surrogate: Nitrobenzene-d5	*0.113*			"	*0.206*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.103*			"	*0.206*		*50.0*	*11.3-166*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C28040 - Default Prep GenChem											
Duplicate (3C28040-DUP1)			**Source: 2303451-10**								
Nitrate as N	2.80	0.10	0.50	mg/L		2.82			0.712	20	
Matrix Spike (3C28040-MS1)			**Source: 2303451-10**								
Nitrate as N	6.74	0.10	0.50	mg/L	4.00	2.82	98.0	90-110			
Matrix Spike Dup (3C28040-MSD1)			**Source: 2303451-10**								
Nitrate as N	6.74	0.10	0.50	mg/L	4.00	2.82	98.0	90-110	0.00	20	
Batch 3C28041 - Default Prep GenChem											
LCS (3C28041-BS1)											
Specific Conductance (EC)	1410			uS/cm	1410		100	90.1-113			
LCS (3C28041-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3C28041-DUP1)			**Source: 2303451-03**								
Specific Conductance (EC)	363			umhos/cm @25.0 C		363			0.0827	20	
Duplicate (3C28041-DUP2)			**Source: 2303451-10**								
Specific Conductance (EC)	210			umhos/cm @25.0 C		210			0.381	20	
Batch 3C28047 - Default Prep GenChem											
Duplicate (3C28047-DUP1)			**Source: 2303451-06**								**HT-02**
pH	7.27			pH Units		7.29			0.275	5	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C29015 - Default Prep GenChem											
Blank (3C29015-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3C29015-BS1)											
Ammonia as N	4.90	0.04	0.21	mg/L	5.00		98.0	90-110			
LCS Dup (3C29015-BSD1)											
Ammonia as N	4.92	0.04	0.21	mg/L	5.00		98.4	90-110	0.407	10	
Matrix Spike (3C29015-MS1)		**Source: 2303442-01**									
Ammonia as N	5.25	0.04	0.21	mg/L	5.00	0.35	97.9	90-110			
Matrix Spike Dup (3C29015-MSD1)		**Source: 2303442-01**									
Ammonia as N	5.17	0.04	0.21	mg/L	5.00	0.35	96.3	90-110	1.54	10	
Batch 3C30018 - Default Prep GenChem											
Blank (3C30018-BLK1)											
Chloride	ND	0.04	5.00	mg/L							
LCS (3C30018-BS1)											
Chloride	24.3	0.04	5.00	mg/L	25.0		97.2	85-115			
LCS Dup (3C30018-BSD1)											
Chloride	24.7	0.04	5.00	mg/L	25.0		98.8	85-115	1.63	30	
Duplicate (3C30018-DUP1)		**Source: 2303451-01**									
Chloride	2.54	0.04	5.00	mg/L		2.39			6.09	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C30018 - Default Prep GenChem											
Matrix Spike (3C30018-MS1)			**Source: 2303451-01**								
Chloride	29.6	0.04	5.00	mg/L	25.0	2.39	109	70-130			
Matrix Spike Dup (3C30018-MSD1)			**Source: 2303451-01**								
Chloride	28.7	0.04	5.00	mg/L	25.0	2.39	105	70-130	3.09	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C29005 - EPA 200.2 DCN 1017 Rev 10											
Blank (3C29005-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3C29005-BS1)											
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100		102	85-115			
Chromium [He]	0.104	0.00016	0.00100	"	0.100		104	85-115			
Lead [He]	0.102	0.00022	0.00100	"	0.100		102	85-115			
Nickel [He]	0.102	0.00035	0.0400	"	0.100		102	85-115			
LCS Dup (3C29005-BSD1)											
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100		102	85-115	0.401	20	
Chromium [He]	0.104	0.00016	0.00100	"	0.100		104	85-115	0.268	20	
Lead [He]	0.101	0.00022	0.00100	"	0.100		101	85-115	0.354	20	
Nickel [He]	0.102	0.00035	0.0400	"	0.100		102	85-115	0.00745	20	
Matrix Spike (3C29005-MS1)			**Source: 2303445-03**								
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100	ND	102	70-130			
Chromium [He]	0.104	0.00016	0.00100	"	0.100	ND	104	70-130			
Lead [He]	0.102	0.00022	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	0.102	0.00035	0.0400	"	0.100	ND	102	70-130			
Matrix Spike (3C29005-MS2)			**Source: 2303445-04**								
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100	ND	104	70-130			
Chromium [He]	0.104	0.00016	0.00100	"	0.100	ND	104	70-130			
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130			
Nickel [He]	0.103	0.00035	0.0400	"	0.100	ND	103	70-130			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C29005 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (3C29005-MSD1)			**Source: 2303445-03**								
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100	ND	104	70-130	2.28	20	
Chromium [He]	0.106	0.00016	0.00100	"	0.100	ND	106	70-130	2.15	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130	1.71	20	
Nickel [He]	0.105	0.00035	0.0400	"	0.100	ND	105	70-130	2.59	20	
Matrix Spike Dup (3C29005-MSD2)			**Source: 2303445-04**								
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100	ND	103	70-130	0.0904	20	
Chromium [He]	0.104	0.00016	0.00100	"	0.100	ND	104	70-130	0.684	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130	0.232	20	
Nickel [He]	0.103	0.00035	0.0400	"	0.100	ND	103	70-130	0.0690	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C31004 - EPA 3510C DCN 4000 Rev 12											
Blank (3C31004-BLK1)											
Acenaphthene	ND	0.09	1.08	ug/L							
Acenaphthylene	ND	0.09	1.16	"							
Anthracene	ND	0.10	1.29	"							
Benzo (a) anthracene	ND	0.09	0.92	"							
Benzo (b) fluoranthene	ND	0.14	1.43	"							
Benzo (k) fluoranthene	ND	0.12	0.85	"							
Benzo (a) pyrene	ND	0.12	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.36	1.08	"							CC-01
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.55	1.65	"							
Chrysene	ND	0.08	0.89	"							
Dibenz (a,h) anthracene	ND	0.19	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.35	1.05	"							
2,4-Dinitrophenol	ND	1.44	4.32	"							
Di-n-octyl phthalate	ND	0.57	1.70	"							CC-01
Fluoranthene	ND	0.03	1.50	"							
Fluorene	ND	0.11	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.15	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.08	0.99	"							
Pentachlorophenol	ND	1.03	3.09	"							
Phenanthrene	ND	0.09	1.20	"							
Pyrene	ND	0.16	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*3.01*			"	*10.0*		*30.1*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.43*			"	*5.00*		*48.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*7.93*			"	*10.0*		*79.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.62*			"	*5.00*		*72.4*	*10-100*			
Surrogate: Phenol-d5	*6.31*			"	*10.0*		*63.1*	*10-100*			
Surrogate: Terphenyl-dl4	*2.42*			"	*5.00*		*48.4*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C31004 - EPA 3510C DCN 4000 Rev 12											
LCS (3C31004-BS1)											
Acenaphthene	5.85	0.09	1.08	ug/L	10.0		58.5	23.3-110			
Acenaphthylene	6.64	0.09	1.16	"	10.0		66.4	25.1-107			
Anthracene	5.93	0.10	1.29	"	10.0		59.3	31-121			
Benzo (a) anthracene	6.59	0.09	0.92	"	10.0		65.9	28.5-120			
Benzo (b) fluoranthene	8.94	0.14	1.43	"	10.0		89.4	31.4-122			
Benzo (k) fluoranthene	7.70	0.12	0.85	"	10.0		77.0	24.6-125			
Benzo (a) pyrene	7.47	0.12	1.25	"	10.0		74.7	30.2-119			
Bis(2-ethylhexyl)phthalate	13.6	0.36	1.08	"	10.0		136	36.4-147			CC-03
Carbazole	8.23	2.62	7.86	"	10.0		82.3	25.1-145			
4-Chloro-3-methylphenol	8.05	0.55	1.65	"	10.0		80.5	33.8-133			
Chrysene	6.58	0.08	0.89	"	10.0		65.8	16.5-124			
Dibenz (a,h) anthracene	7.90	0.19	1.78	"	10.0		79.0	12.1-136			
Dibenzofuran	6.28	0.40	1.20	"	10.0		62.8	20.8-127			
2,4-Dimethylphenol	7.51	0.35	1.05	"	10.0		75.1	18.3-144			
2,4-Dinitrophenol	10.1	1.44	4.32	"	10.0		101	14.6-124			
Di-n-octyl phthalate	11.6	0.57	1.70	"	10.0		116	37.1-149			CC-03
Fluoranthene	6.81	0.03	1.50	"	10.0		68.1	29.2-123			
Fluorene	6.10	0.11	1.19	"	10.0		61.0	25.6-117			
Indeno (1,2,3-cd) pyrene	8.66	0.15	1.63	"	10.0		86.6	23.1-121			
2-Methylnaphthalene	6.80	0.05	1.28	"	10.0		68.0	20.8-109			
2-Methylphenol	8.78	0.41	1.24	"	10.0		87.8	27.9-113			
3 & 4-Methylphenol	20.0	1.13	3.39	"	20.0		100	23.5-113			
Naphthalene	6.12	0.08	0.99	"	10.0		61.2	16.7-105			
Pentachlorophenol	5.20	1.03	3.09	"	10.0		52.0	10-154			
Phenanthrene	7.53	0.09	1.20	"	10.0		75.3	22.8-123			
Pyrene	8.08	0.16	0.58	"	10.0		80.8	25.8-126			
2,4,6-Trichlorophenol	6.35	0.44	1.32	"	10.0		63.5	30-127			
1-Methylnaphthalene	5.56	0.05	1.28	"	10.0		55.6	17.2-108			
Surrogate: 2,4,6-Tribromophenol	*3.45*			"	*10.0*		*34.5*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.95*			"	*5.00*		*59.0*	*15.3-102*			
Surrogate: 2-Fluorophenol	*6.90*			"	*10.0*		*69.0*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.17*			"	*5.00*		*63.4*	*10-100*			
Surrogate: Phenol-d5	*3.20*			"	*10.0*		*32.0*	*10-100*			
Surrogate: Terphenyl-dl4	*2.24*			"	*5.00*		*44.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C31004 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3C31004-BSD1)											
Acenaphthene	6.15	0.09	1.08	ug/L	10.0		61.5	23.3-110	5.00	48	
Acenaphthylene	6.05	0.09	1.16	"	10.0		60.5	25.1-107	9.30	74	
Anthracene	5.20	0.10	1.29	"	10.0		52.0	31-121	13.1	66	
Benzo (a) anthracene	6.30	0.09	0.92	"	10.0		63.0	28.5-120	4.50	53	
Benzo (b) fluoranthene	8.45	0.14	1.43	"	10.0		84.5	31.4-122	5.64	71	
Benzo (k) fluoranthene	8.51	0.12	0.85	"	10.0		85.1	24.6-125	9.99	63	
Benzo (a) pyrene	7.48	0.12	1.25	"	10.0		74.8	30.2-119	0.134	72	
Bis(2-ethylhexyl)phthalate	13.0	0.36	1.08	"	10.0		130	36.4-147	4.20	82	CC-03
Carbazole	7.80	2.62	7.86	"	10.0		78.0	25.1-145	5.36	40	
4-Chloro-3-methylphenol	7.36	0.55	1.65	"	10.0		73.6	33.8-133	8.96	73	
Chrysene	7.16	0.08	0.89	"	10.0		71.6	16.5-124	8.44	87	
Dibenz (a,h) anthracene	7.52	0.19	1.78	"	10.0		75.2	12.1-136	4.93	126	
Dibenzofuran	6.01	0.40	1.20	"	10.0		60.1	20.8-127	4.39	40	
2,4-Dimethylphenol	7.24	0.35	1.05	"	10.0		72.4	18.3-144	3.66	58	
2,4-Dinitrophenol	4.31	1.44	4.32	"	10.0		43.1	14.6-124	80.0	132	
Di-n-octyl phthalate	12.4	0.57	1.70	"	10.0		124	37.1-149	6.93	69	CC-03
Fluoranthene	6.12	0.03	1.50	"	10.0		61.2	29.2-123	10.7	66	
Fluorene	5.82	0.11	1.19	"	10.0		58.2	25.6-117	4.70	38	
Indeno (1,2,3-cd) pyrene	8.01	0.15	1.63	"	10.0		80.1	23.1-121	7.80	99	
2-Methylnaphthalene	7.24	0.05	1.28	"	10.0		72.4	20.8-109	6.27	40	
2-Methylphenol	8.14	0.41	1.24	"	10.0		81.4	27.9-113	7.57	40	
3 & 4-Methylphenol	19.7	1.13	3.39	"	20.0		98.6	23.5-113	1.66	40	
Naphthalene	6.79	0.08	0.99	"	10.0		67.9	16.7-105	10.4	65	
Pentachlorophenol	4.19	1.03	3.09	"	10.0		41.9	10-154	21.5	86	
Phenanthrene	6.94	0.09	1.20	"	10.0		69.4	22.8-123	8.15	39	
Pyrene	8.58	0.16	0.58	"	10.0		85.8	25.8-126	6.00	49	
2,4,6-Trichlorophenol	6.30	0.44	1.32	"	10.0		63.0	30-127	0.791	58	
1-Methylnaphthalene	5.58	0.05	1.28	"	10.0		55.8	17.2-108	0.359	40	
Surrogate: 2,4,6-Tribromophenol	*3.11*			"	*10.0*		*31.1*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.83*			"	*5.00*		*56.6*	*15.3-102*			
Surrogate: 2-Fluorophenol	*5.91*			"	*10.0*		*59.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*2.78*			"	*5.00*		*55.6*	*10-100*			
Surrogate: Phenol-d5	*2.63*			"	*10.0*		*26.3*	*10-100*			
Surrogate: Terphenyl-dl4	*2.24*			"	*5.00*		*44.8*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C31004 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3C31004-DUP1)			**Source: 2303451-03**								
Acenaphthene	3.31	0.09	1.13	ug/L		7.80			80.8	45	P3
Acenaphthylene	ND	0.09	1.21	"		ND				45	
Anthracene	ND	0.10	1.35	"		ND				45	
Benzo (a) anthracene	ND	0.09	0.96	"		ND				45	
Benzo (b) fluoranthene	ND	0.15	1.50	"		ND				45	
Benzo (k) fluoranthene	0.25	0.13	0.89	"		0.93			115	45	P3
Benzo (a) pyrene	ND	0.13	1.31	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.13	"		ND				45	CC-01
Carbazole	18.5	2.74	8.23	"		24.5			27.7	45	
4-Chloro-3-methylphenol	ND	0.57	1.73	"		ND				45	
Chrysene	ND	0.08	0.93	"		ND				45	
Dibenz (a,h) anthracene	ND	0.19	1.86	"		ND				45	
Dibenzofuran	ND	0.42	1.26	"		ND				45	
2,4-Dimethylphenol	ND	0.37	1.10	"		ND				45	
2,4-Dinitrophenol	ND	1.51	4.52	"		ND				45	
Di-n-octyl phthalate	ND	0.59	1.78	"		ND				45	CC-01
Fluoranthene	ND	0.03	1.57	"		ND				45	
Fluorene	1.34	0.11	1.25	"		2.79			70.3	45	
Indeno (1,2,3-cd) pyrene	ND	0.15	1.71	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.34	"		ND				45	
2-Methylphenol	ND	0.43	1.30	"		ND				45	
3 & 4-Methylphenol	ND	1.18	3.55	"		ND				45	
Naphthalene	0.43	0.09	1.04	"		13.3			188	45	
Pentachlorophenol	ND	1.08	3.24	"		ND				45	
Phenanthrene	ND	0.10	1.26	"		ND				45	
Pyrene	ND	0.17	0.61	"		ND				45	
2,4,6-Trichlorophenol	ND	0.46	1.38	"		ND				45	
1-Methylnaphthalene	1.93	0.05	1.34	"		4.30			76.3	45	P3
Surrogate: 2,4,6-Tribromophenol	*3.43*			"	*10.5*		*32.8*	*19.2-121*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*2.76*			"	*5.24*		*52.8*	*15.3-102*			
Surrogate: 2-Fluorophenol	*8.87*			"	*10.5*		*84.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.01*			"	*5.24*		*19.2*	*10-100*			
Surrogate: Phenol-d5	*7.47*			"	*10.5*		*71.3*	*10-100*			
Surrogate: Terphenyl-dl4	*2.05*			"	*5.24*		*39.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3C31004 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3C31004-MS1)		**Source: 2303451-03**									
Acenaphthene	6.25	0.09	1.11	ug/L	10.3	7.80	NR	13.9-100			M5
Acenaphthylene	4.55	0.09	1.20	"	10.3	ND	44.1	24.9-100			
Anthracene	5.07	0.10	1.33	"	10.3	ND	49.2	18.9-116			
Benzo (a) anthracene	4.42	0.09	0.95	"	10.3	ND	42.9	17.8-114			
Benzo (b) fluoranthene	5.54	0.15	1.47	"	10.3	ND	53.7	10-130			
Benzo (k) fluoranthene	4.54	0.12	0.88	"	10.3	0.93	34.9	10-124			
Benzo (a) pyrene	5.45	0.12	1.29	"	10.3	ND	52.9	11.4-120			
Bis(2-ethylhexyl)phthalate	5.08	0.37	1.11	"	10.3	ND	49.3	10-158			
Carbazole	13.2	2.70	8.10	"	10.3	24.5	NR	15.3-151			
4-Chloro-3-methylphenol	6.03	0.57	1.70	"	10.3	ND	58.5	19.6-126			
Chrysene	4.62	0.08	0.92	"	10.3	ND	44.8	27.4-100			
Dibenz (a,h) anthracene	5.31	0.19	1.84	"	10.3	ND	51.5	24.3-106			
Dibenzofuran	4.49	0.41	1.24	"	10.3	ND	43.6	10-107			
2,4-Dimethylphenol	5.53	0.36	1.08	"	10.3	ND	53.6	10-141			
2,4-Dinitrophenol	5.57	1.48	4.45	"	10.3	ND	54.0	10-173			
Di-n-octyl phthalate	4.89	0.59	1.75	"	10.3	ND	47.4	45.7-114			
Fluoranthene	5.63	0.03	1.55	"	10.3	ND	54.6	23.8-112			
Fluorene	5.76	0.11	1.23	"	10.3	2.79	28.8	12.6-112			
Indeno (1,2,3-cd) pyrene	4.69	0.15	1.68	"	10.3	ND	45.5	24.7-104			
2-Methylnaphthalene	3.72	0.05	1.32	"	10.3	ND	36.1	30.6-100			
2-Methylphenol	3.16	0.43	1.28	"	10.3	ND	30.7	13-100			
3 & 4-Methylphenol	7.81	1.16	3.49	"	20.6	ND	37.9	10-100			
Naphthalene	3.69	0.09	1.02	"	10.3	13.3	NR	14.1-100			
Pentachlorophenol	5.98	1.06	3.19	"	10.3	ND	58.0	10-155			
Phenanthrene	5.18	0.09	1.24	"	10.3	ND	50.2	21.9-105			
Pyrene	5.29	0.16	0.60	"	10.3	ND	51.3	10-131			
2,4,6-Trichlorophenol	4.80	0.45	1.36	"	10.3	ND	46.6	21.4-119			
1-Methylnaphthalene	2.82	0.05	1.32	"	10.3	4.30	NR	13.8-101			M5
Surrogate: 2,4,6-Tribromophenol	*5.93*			*"*	*10.3*		*57.5*	*19.2-121*			
Surrogate: 2-Fluorobiphenyl	*2.15*			*"*	*5.15*		*41.8*	*15.3-102*			
Surrogate: 2-Fluorophenol	*2.72*			*"*	*10.3*		*26.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.79*			*"*	*5.15*		*34.8*	*10-100*			
Surrogate: Phenol-d5	*2.90*			*"*	*10.3*		*28.1*	*10-100*			
Surrogate: Terphenyl-dl4	*1.65*			*"*	*5.15*		*32.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D03032 - EPA 3510C DCN 4000 Rev 12											
Blank (3D03032-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							CC-01
Surrogate: 2,4,6-Tribromophenol	*68.4*			"	*100*		*68.4*	*15.8-107*			
Surrogate: 2-Fluorobiphenyl	*26.9*			"	*50.0*		*53.7*	*14.6-104*			
Surrogate: 2-Fluorophenol	*20.3*			"	*100*		*20.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*16.7*			"	*50.0*		*33.3*	*10-108*			
Surrogate: Phenol-d5	*13.2*			"	*100*		*13.2*	*10-100*			
Surrogate: Terphenyl-dl4	*19.2*			"	*50.0*		*38.3*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D03032 - EPA 3510C DCN 4000 Rev 12											
LCS (3D03032-BS1)											
Acenaphthene	53.8	1.13	10.0	ug/L	100		53.8	34.2-100			
Acenaphthylene	61.4	1.07	10.0	"	100		61.4	25.3-109			
Anthracene	59.4	0.99	10.0	"	100		59.4	35.2-100			
Benzo (a) anthracene	54.0	0.87	10.0	"	100		54.0	35.2-100			
Benzo (b) fluoranthene	59.1	1.03	10.0	"	100		59.1	30.2-101			
Benzo (k) fluoranthene	52.9	1.01	10.0	"	100		52.9	29.8-101			
Benzo (a) pyrene	59.1	0.98	10.0	"	100		59.1	32.8-105			
Bis(2-ethylhexyl)phthalate	54.9	1.14	10.0	"	100		54.9	23.6-121			
Carbazole	38.6	0.90	10.0	"	100		38.6	10-145			
4-Chloro-3-methylphenol	51.8	1.04	10.0	"	100		51.8	39.5-100			
Chrysene	55.0	0.92	10.0	"	100		55.0	14.3-109			
Dibenz (a,h) anthracene	68.2	0.67	10.0	"	100		68.2	15.2-113			
Dibenzofuran	57.3	1.04	10.0	"	100		57.3	35-100			
2,4-Dimethylphenol	45.9	0.84	10.0	"	100		45.9	32.5-100			
2,4-Dinitrophenol	38.4	3.05	10.0	"	100		38.4	10-133			
Di-n-octyl phthalate	55.2	1.35	10.0	"	100		55.2	10-127			
Fluoranthene	70.2	0.93	10.0	"	100		70.2	19.8-125			
Fluorene	55.2	1.01	10.0	"	100		55.2	31.2-105			
Indeno (1,2,3-cd) pyrene	74.1	0.89	10.0	"	100		74.1	25.2-107			
2-Methylnaphthalene	57.2	1.12	10.0	"	100		57.2	22.3-100			
2-Methylphenol	31.5	0.88	10.0	"	100		31.5	28.1-100			
3 & 4-Methylphenol	64.1	0.87	10.0	"	200		32.1	24.5-100			
Naphthalene	51.2	1.09	10.0	"	100		51.2	23.4-100			
Pentachlorophenol	58.2	2.72	10.0	"	100		58.2	10-102			
Phenanthrene	64.3	0.93	10.0	"	100		64.3	34.8-100			
Pyrene	48.9	1.09	10.0	"	100		48.9	10-124			
2,4,6-Trichlorophenol	53.1	2.58	10.0	"	100		53.1	38.3-100			CC-03
Surrogate: 2,4,6-Tribromophenol	*91.6*			"	*100*		*91.6*	*15.8-107*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*29.3*			"	*50.0*		*58.5*	*14.6-104*			
Surrogate: 2-Fluorophenol	*28.0*			"	*100*		*28.0*	*10-100*			
Surrogate: Nitrobenzene-d5	*20.8*			"	*50.0*		*41.6*	*10-108*			
Surrogate: Phenol-d5	*15.8*			"	*100*		*15.8*	*10-100*			
Surrogate: Terphenyl-dl4	*20.3*			"	*50.0*		*40.6*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D03032 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3D03032-BSD1)											
Acenaphthene	52.4	1.13	10.0	ug/L	100		52.4	34.2-100	2.62	40	
Acenaphthylene	58.5	1.07	10.0	"	100		58.5	25.3-109	4.77	40	
Anthracene	58.5	0.99	10.0	"	100		58.5	35.2-100	1.46	40	
Benzo (a) anthracene	57.3	0.87	10.0	"	100		57.3	35.2-100	5.91	40	
Benzo (b) fluoranthene	62.0	1.03	10.0	"	100		62.0	30.2-101	4.77	40	
Benzo (k) fluoranthene	60.2	1.01	10.0	"	100		60.2	29.8-101	12.8	40	
Benzo (a) pyrene	63.5	0.98	10.0	"	100		63.5	32.8-105	7.08	40	
Bis(2-ethylhexyl)phthalate	59.3	1.14	10.0	"	100		59.3	23.6-121	7.79	40	
Carbazole	44.9	0.90	10.0	"	100		44.9	10-145	15.0	40	
4-Chloro-3-methylphenol	52.7	1.04	10.0	"	100		52.7	39.5-100	1.82	40	
Chrysene	59.3	0.92	10.0	"	100		59.3	14.3-109	7.65	40	
Dibenz (a,h) anthracene	72.0	0.67	10.0	"	100		72.0	15.2-113	5.54	40	
Dibenzofuran	54.7	1.04	10.0	"	100		54.7	35-100	4.64	40	
2,4-Dimethylphenol	40.6	0.84	10.0	"	100		40.6	32.5-100	12.2	40	
2,4-Dinitrophenol	53.0	3.05	10.0	"	100		53.0	10-133	32.0	40	
Di-n-octyl phthalate	58.4	1.35	10.0	"	100		58.4	10-127	5.64	40	
Fluoranthene	72.9	0.93	10.0	"	100		72.9	19.8-125	3.82	40	
Fluorene	54.5	1.01	10.0	"	100		54.5	31.2-105	1.20	40	
Indeno (1,2,3-cd) pyrene	80.0	0.89	10.0	"	100		80.0	25.2-107	7.66	40	
2-Methylnaphthalene	52.4	1.12	10.0	"	100		52.4	22.3-100	8.84	40	
2-Methylphenol	31.5	0.88	10.0	"	100		31.5	28.1-100	0.0953	40	
3 & 4-Methylphenol	61.2	0.87	10.0	"	200		30.6	24.5-100	4.64	40	
Naphthalene	45.8	1.09	10.0	"	100		45.8	23.4-100	11.1	40	
Pentachlorophenol	75.2	2.72	10.0	"	100		75.2	10-102	25.5	40	
Phenanthrene	65.2	0.93	10.0	"	100		65.2	34.8-100	1.39	40	
Pyrene	53.0	1.09	10.0	"	100		53.0	10-124	8.05	40	
2,4,6-Trichlorophenol	53.8	2.58	10.0	"	100		53.8	38.3-100	1.23	40	CC-03
Surrogate: 2,4,6-Tribromophenol	*95.4*			"	*100*		*95.4*	*15.8-107*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*26.9*			"	*50.0*		*53.8*	*14.6-104*			
Surrogate: 2-Fluorophenol	*26.2*			"	*100*		*26.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*18.1*			"	*50.0*		*36.2*	*10-108*			
Surrogate: Phenol-d5	*22.0*			"	*100*		*22.0*	*10-100*			
Surrogate: Terphenyl-dl4	*20.7*			"	*50.0*		*41.3*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D03032 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3D03032-DUP1)			**Source: 2303451-01**								
Acenaphthene	71.4	1.15	10.2	ug/L		ND			200	45	P3
Acenaphthylene	34.2	1.09	10.2	"		ND			200	45	P3
Anthracene	105	10.0	102	"		11.3			161	45	P3
Benzo (a) anthracene	521	8.83	102	"		74.1			150	45	P3
Benzo (b) fluoranthene	368	10.5	102	"		60.5			144	45	P3
Benzo (k) fluoranthene	54.2	1.03	10.2	"		23.8			77.9	45	P3
Benzo (a) pyrene	155	9.91	102	"		31.8			132	45	P3
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"		ND				45	CC-01
Carbazole	ND	0.91	10.2	"		ND				45	
4-Chloro-3-methylphenol	ND	1.06	10.2	"		ND				45	
Chrysene	451	9.37	102	"		55.6			156	45	P3
Dibenz (a,h) anthracene	ND	0.68	10.2	"		ND				45	
Dibenzofuran	11.0	1.06	10.2	"		ND			200	45	P3
2,4-Dimethylphenol	ND	0.85	10.2	"		ND				45	
2,4-Dinitrophenol	ND	3.10	10.2	"		ND				45	
Di-n-octyl phthalate	ND	1.37	10.2	"		ND				45	CC-01
Fluoranthene	4000	94.8	1020	"		359			167	45	P3
Fluorene	50.8	1.03	10.2	"		ND			200	45	P3
Indeno (1,2,3-cd) pyrene	61.1	0.90	10.2	"		ND			200	45	P3
2-Methylnaphthalene	ND	1.14	10.2	"		ND				45	
2-Methylphenol	ND	0.89	10.2	"		ND				45	
3 & 4-Methylphenol	ND	0.89	10.2	"		ND				45	
Naphthalene	ND	1.11	10.2	"		ND				45	
Pentachlorophenol	13.1	2.76	10.2	"		ND			200	45	P3
Phenanthrene	170	9.42	102	"		23.5			151	45	P3
Pyrene	1620	11.1	102	"		321			134	45	P3
2,4,6-Trichlorophenol	ND	2.62	10.2	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*103*			"	*102*		*101*	*15.8-107*			
Surrogate: 2-Fluorobiphenyl	*26.9*			"	*50.8*		*53.0*	*14.6-104*			
Surrogate: 2-Fluorophenol	*25.3*			"	*102*		*24.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*23.8*			"	*50.8*		*46.9*	*10-108*			
Surrogate: Phenol-d5	*12.6*			"	*102*		*12.4*	*10-100*			
Surrogate: Terphenyl-dl4	*25.0*			"	*50.8*		*49.2*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D06028 - EPA 5030B											
Blank (3D06028-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.3*			"	*50.0*		*98.6*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.7*			"	*50.0*		*97.4*	*80.2-119*			
Surrogate: Toluene-d8	*48.3*			"	*50.0*		*96.7*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.8*	*76.1-131*			
Blank (3D06028-BLK2)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.0*			"	*50.0*		*98.1*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.4*			"	*50.0*		*96.8*	*80.2-119*			
Surrogate: Toluene-d8	*47.8*			"	*50.0*		*95.6*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*76.1-131*			
LCS (3D06028-BS1)											
Benzene	28.8	0.258	5.00	ug/L	25.0		115	68-136			
Ethylbenzene	27.3	0.190	5.00	"	25.0		109	70.3-136			
Surrogate: Dibromofluoromethane	*52.0*			"	*50.0*		*104*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.2*			"	*50.0*		*96.5*	*80.2-119*			
Surrogate: Toluene-d8	*48.9*			"	*50.0*		*97.8*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*49.6*			"	*50.0*		*99.3*	*76.1-131*			
LCS (3D06028-BS2)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.5	68-136			
Ethylbenzene	17.9	0.190	5.00	"	20.0		89.3	70.3-136			
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*50.0*			"	*50.0*		*100*	*80.2-119*			
Surrogate: Toluene-d8	*48.9*			"	*50.0*		*97.7*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.9*			"	*50.0*		*102*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D06028 - EPA 5030B											
LCS Dup (3D06028-BSD1)											
Benzene	28.1	0.258	5.00	ug/L	25.0		113	68-136	2.18	30	
Ethylbenzene	26.8	0.190	5.00	"	25.0		107	70.3-136	1.77	30	
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.6*			"	*50.0*		*97.2*	*80.2-119*			
Surrogate: Toluene-d8	*49.5*			"	*50.0*		*99.0*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.0*			"	*50.0*		*99.9*	*76.1-131*			
LCS Dup (3D06028-BSD2)											
Benzene	19.4	0.258	5.00	ug/L	20.0		97.1	68-136	2.39	30	
Ethylbenzene	17.8	0.190	5.00	"	20.0		88.9	70.3-136	0.449	30	
Surrogate: Dibromofluoromethane	*50.2*			"	*50.0*		*100*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.8*	*80.2-119*			
Surrogate: Toluene-d8	*48.4*			"	*50.0*		*96.9*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.7*			"	*50.0*		*101*	*76.1-131*			
Matrix Spike (3D06028-MS1)			**Source: 2303414-02**								
Benzene	27.2	0.258	5.00	ug/L	25.0	0.860	105	68-144			
Ethylbenzene	33.3	0.190	5.00	"	25.0	10.2	92.5	69.2-134			
Surrogate: Dibromofluoromethane	*51.2*			"	*50.0*		*102*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.1*			"	*50.0*		*96.1*	*80.2-119*			
Surrogate: Toluene-d8	*49.7*			"	*50.0*		*99.5*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*51.0*			"	*50.0*		*102*	*76.1-131*			
Matrix Spike Dup (3D06028-MSD1)			**Source: 2303414-02**								
Benzene	26.9	0.258	5.00	ug/L	25.0	0.860	104	68-144	1.07	35	
Ethylbenzene	33.8	0.190	5.00	"	25.0	10.2	94.5	69.2-134	1.52	35	
Surrogate: Dibromofluoromethane	*51.2*			"	*50.0*		*102*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.3*			"	*50.0*		*96.6*	*80.2-119*			
Surrogate: Toluene-d8	*49.9*			"	*50.0*		*99.8*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*76.1-131*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 04/24/2023 10:32

2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/24/2023 10:32

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2023*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2023*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/24/2023 10:32

Analyst Initials Key

FullName	Initials
Alexandria S Calloway	ASC
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2303451

Company Name: Cavenham Forest Ind.	Project Manager: Esther Allen
Address: P.O Box 15369	Purchase Order #:
City: Hattiesburg State: MS Zip: 39404	Email Address: eallen@envirmgt.com
Phone: 601-544-3674	Sampler Name Printed: Jeff Gonsalin
Fax: 601-544-0504	Sampler Name Signed:
Project Name: Mobile CF2 1st Qtr 2023	
Project #:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days

- X Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	Preservative	Pd / Cond	Chlor. dr	Mineral	Metals	Remarks	BNS	VOA
T-1	3/27/23 - 9:55	W	7	G		X	X	X	X	X	X	X
RW-5	3/27/23 - 10:15	W	9	G		X	X	X	X	X	X	X
RW-4	3/27/23 - 10:30	W	9	G		X	X	X	X	X	X	X
RW-8A	3/27/23 - 11:00	W	9	G		X	X	X	X	X	X	X
RW-11	3/27/23 - 12:30	W	6	G		X	X	X		X	X	X
RW-12	3/27/23 - 12:40	W	6	G		X	X	X		X	X	X
RW-13	3/27/23 - 12:52	W	6	G		X	X	X		X	X	X
RW-6	3/27/23 13:10	W	6	G		X	X	X		X	X	X
RW-7	3/27/23 13:22	W	6	G		X	X	X		X	X	X
13-60 A	3/27/23 - 1305	W	9	G		X	X	X	X	X	X	X
TBW #1105	3/27/23 - 9:55	W										X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: Y N Thermometer# 5 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample____ Blank X Cooler____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3/27/23	14:00
Received by	Kaleb Atkins		EMS	3-27-23	1400
Relinquished by	Kaleb Atkins		EMS	3-27-23	1506
Received by	Sarah Jomek	Sarah Jomek	MM	3/27/23	1506
Relinquished by					
Received by					

Notes:
cooler # 1144 0.5°c
cooler # 685 -0.4°c
cooler # 1103 -0.1°c
cooler # 1135 0.2°c

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

April 25, 2023

Ethan Allen

Work Order # : 2304120

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 04/06/2023 08:43. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/T-2	2304120-01	Water	04/05/2023 15:30	*Jeff Gonsoulin*	04/06/2023 08:43
Mobile/GC-Sump	2304120-02	Water	04/05/2023 16:00	*Jeff Gonsoulin*	04/06/2023 08:43
Trip Blank TBV#7100	2304120-03	Water	04/05/2023 15:30	*Micro Methods*	04/06/2023 08:43

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Sample Receipt Conditions

Date/Time Received: 4/6/2023 8:43:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 4/6/2023 8:51:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 04/25/2023 12:50

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol
2304120-01[Mobile/T-2], 2304120-02[Mobile/GC-Sump], 3D13006-DUP1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Acenaphthylene, Benzo (a) anthracene, Bis(2-ethylhexyl)phthalate, Dibenz (a,h) anthracene, Naphthalene, Phenanthrene
2304120-02[Mobile/GC-Sump], 3D13006-DUP1

L3 LCS/LCSD Precision Limit exceeded.

2,4-Dinitrophenol
3D13006-BSD1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Phenanthrene
3D13006-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2304120-01[Mobile/T-2], 2304120-02[Mobile/GC-Sump], 3D10048-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Mobile/T-2

2304120-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**2.44**	0.04	0.21	mg/L	1.0	3D12035	CRG	04/12/2023 09:30	04/12/2023 12:06	Lachat 10-107-06-1-I	
Chloride	**19.6**	0.66	2.00	"	"	3D10051	DLW	04/10/2023 11:30	04/10/2023 16:18	ASTM D 512-12	
pH	**6.92**			pH Units	"	3D10048	JBM	04/10/2023 15:15	04/10/2023 15:16	SM 4500-H+B-2011	
Specific Conductance (EC)	**799**			umhos/cm @25.0 C	"	3D12037	JBM	04/11/2023 16:00	04/11/2023 16:00	SM 2510 B-2011	
Nitrate as N	ND	0.11	0.50	mg/L	"	3D06020	ASC	04/06/2023 11:38	04/06/2023 11:54	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3D10041	CLV	04/10/2023 12:00	04/10/2023 15:47	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**52.5**	1.97	10.6	ug/L	1.0	3D13006	CRLV	04/11/2023 09:35	04/21/2023 23:47	EPA 8270D	
Acenaphthylene	ND	2.34	10.6	"	"	"	CRLV	"	"	"	
Anthracene	ND	2.34	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**12.1**	2.49	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.62	10.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	3.10	10.6	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.79	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.26	10.6	"	"	"	CRLV	"	"	"	
Carbazole	ND	3.55	10.6	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	2.52	10.6	"	"	"	CRLV	"	"	"	
Chrysene	ND	2.40	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	1.50	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	2.20	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.34	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.79	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.62	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	**60.9**	2.14	10.6	"	"	"	CRLV	"	"	"	
Fluorene	ND	2.36	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.65	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	2.24	10.6	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	1.89	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.84	10.6	"	"	"	CRLV	"	"	"	
Naphthalene	ND	2.07	10.6	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	3.17	10.6	"	"	"	CRLV	"	"	"	
Phenanthrene	**14.0**	2.60	10.6	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Mobile/T-2

2304120-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Pyrene	**46.1**	3.12	10.6	"	1.0	3D13006	CRLV	04/11/2023 09:35	"	"	
2,4,6-Trichlorophenol	ND	2.09	10.6	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	96.1	*90.3 %*	*15.8-107*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	32.0	*60.2 %*	*14.6-104*	"	CRLV	"	"	"	
2-Fluorophenol	43.7	*41.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	34.0	*64.0 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	34.9	*32.8 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	25.1	*47.2 %*	*10-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D10034	BSF	04/06/2023 08:00	04/06/2023 18:17	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.6	*93.2 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.6	*93.2 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.2	*98.4 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.6	*97.1 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Mobile/GC-Sump

2304120-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**29.6**	0.07	0.42	mg/L	2.0	3D12035	CRG	04/12/2023 09:30	04/12/2023 14:10	Lachat 10-107-06-1-I	
Chloride	**486**	6.60	20.0	"	10.0	3D10051	DLW	04/10/2023 11:30	04/10/2023 16:18	ASTM D 512-12	
pH	**6.14**			pH Units	1.0	3D10048	JBM	04/10/2023 15:15	04/10/2023 15:16	SM 4500-H+B-2011	
Specific Conductance (EC)	**4470**			umhos/cm @25.0 C	"	3D12037	JBM	04/11/2023 16:00	04/11/2023 16:00	SM 2510 B-2011	
Nitrate as N	**3.64**	0.11	0.50	mg/L	"	3D06020	ASC	04/06/2023 11:38	04/06/2023 11:54	HACH 10206	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**91.4**	1.87	10.1	ug/L	1.0	3D13006	CRLV	04/11/2023 09:35	04/21/2023 10:11	EPA 8270D	
Acenaphthylene	**4.89**	2.22	10.1	"	"	"	CRLV	"	"	"	J
Anthracene	**22.3**	2.22	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**28.8**	2.36	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**37.0**	2.48	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**12.4**	2.94	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**23.4**	2.65	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**3.19**	3.09	10.1	"	"	"	CRLV	"	"	"	J
Carbazole	**61.2**	3.37	10.1	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	2.39	10.1	"	"	"	CRLV	"	"	"	
Chrysene	**38.6**	2.28	10.1	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**4.02**	1.42	10.1	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**51.3**	2.09	10.1	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.27	10.1	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.65	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.43	10.1	"	"	"	CRLV	"	"	"	
Fluoranthene	**79.7**	2.03	10.1	"	"	"	CRLV	"	"	"	
Fluorene	**62.1**	2.24	10.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**11.4**	2.52	10.1	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	2.13	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	1.80	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.75	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	**2.74**	1.97	10.1	"	"	"	CRLV	"	"	"	J
Pentachlorophenol	ND	3.01	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	**67.7**	2.46	10.1	"	"	"	CRLV	"	"	"	
Pyrene	**56.0**	2.96	10.1	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	1.98	10.1	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Mobile/GC-Sump

2304120-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
2,4,6-Tribromophenol	87.6		*86.8 %*	*15.8-107*		*3D13006*	CRLV	*04/11/2023 09:35*	"	"	*CC-03*
2-Fluorobiphenyl	33.4		*66.1 %*	*14.6-104*		"	CRLV	"	"	"	
2-Fluorophenol	39.4		*39.0 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	28.0		*55.4 %*	*10-108*		"	CRLV	"	"	"	
Phenol-d5	34.8		*34.5 %*	*10-100*		"	CRLV	"	"	"	
Terphenyl-dl4	21.9		*43.4 %*	*10-100*		"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	3D10034	BSF	04/06/2023 08:00	04/06/2023 18:41	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	Result	% Rec	Rec Limits	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Dibromofluoromethane	46.9	*93.8 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.1	*94.2 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	48.6	*97.3 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.8	*97.7 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Trip Blank TBV#7100

2304120-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3D10034	BSF	04/06/2023 08:00	04/06/2023 19:05	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.1	*94.1 %*	*77.2-120*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.6	*95.2 %*	*80.2-119*	"	BSF	"	"	"	
Toluene-d8	49.8	*99.6 %*	*73-122*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.0	*95.9 %*	*76.1-131*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D06020 - Default Prep GenChem											
Duplicate (3D06020-DUP1)			**Source: 2304120-01**								
Nitrate as N	0.24	0.11	0.50	mg/L		0.24			0.847	20	
Matrix Spike (3D06020-MS1)			**Source: 2304120-01**								
Nitrate as N	4.63	0.11	0.50	mg/L	4.00	0.24	110	90-110			
Matrix Spike Dup (3D06020-MSD1)			**Source: 2304120-01**								
Nitrate as N	4.58	0.11	0.50	mg/L	4.00	0.24	109	90-110	1.09	20	
Batch 3D10048 - Default Prep GenChem											
Duplicate (3D10048-DUP1)			**Source: 2304120-01**								**HT-02**
pH	6.95			pH Units		6.92			0.433	5	
Batch 3D10051 - Default Prep GenChem											
Blank (3D10051-BLK1)											
Chloride	ND	0.66	2.00	mg/L							
LCS (3D10051-BS1)											
Chloride	22.8	0.66	2.00	mg/L	25.0		91.2	85-115			
LCS Dup (3D10051-BSD1)											
Chloride	22.5	0.66	2.00	mg/L	25.0		90.0	85-115	1.32	30	
Duplicate (3D10051-DUP1)			**Source: 2304120-01**								
Chloride	19.1	0.66	2.00	mg/L		19.6			2.58	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D10051 - Default Prep GenChem											
Matrix Spike (3D10051-MS1)			**Source: 2304120-01**								
Chloride	43.2	0.66	2.00	mg/L	25.0	19.6	94.4	70-130			
Matrix Spike Dup (3D10051-MSD1)			**Source: 2304120-01**								
Chloride	42.9	0.66	2.00	mg/L	25.0	19.6	93.2	70-130	0.697	20	
Batch 3D12035 - Default Prep GenChem											
Blank (3D12035-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3D12035-BS1)											
Ammonia as N	5.15	0.04	0.21	mg/L	5.00		103	90-110			
LCS Dup (3D12035-BSD1)											
Ammonia as N	5.06	0.04	0.21	mg/L	5.00		101	90-110	1.76	10	
Duplicate (3D12035-DUP1)			**Source: 2304103-01**								
Ammonia as N	1360	3.60	21.0	mg/L		1400			2.90	10	
Matrix Spike (3D12035-MS1)			**Source: 2304091-02**								
Ammonia as N	5.07	0.04	0.21	mg/L	5.00	0.08	99.9	90-110			
Matrix Spike Dup (3D12035-MSD1)			**Source: 2304091-02**								
Ammonia as N	4.94	0.04	0.21	mg/L	5.00	0.08	97.3	90-110	2.60	10	
Batch 3D12037 - Default Prep GenChem											
LCS (3D12037-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90.1-113			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D12037 - Default Prep GenChem											
LCS (3D12037-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3D12037-DUP1)			**Source: 2304120-01**								
Specific Conductance (EC)	797			umhos/cm @25.0 C		799			0.238	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D10041 - EPA 200.2 DCN 1017 Rev 10											
Blank (3D10041-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3D10041-BS1)											
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100		103	85-115			
Chromium [He]	0.106	0.00016	0.00100	"	0.100		106	85-115			
Lead [He]	0.102	0.00022	0.00100	"	0.100		102	85-115			
Nickel [He]	0.103	0.00035	0.0400	"	0.100		103	85-115			
LCS Dup (3D10041-BSD1)											
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100		101	85-115	1.45	20	
Chromium [He]	0.103	0.00016	0.00100	"	0.100		103	85-115	2.38	20	
Lead [He]	0.100	0.00022	0.00100	"	0.100		99.9	85-115	1.97	20	
Nickel [He]	0.100	0.00035	0.0400	"	0.100		100	85-115	2.32	20	
Matrix Spike (3D10041-MS1)			**Source: 2304105-01**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130			
Chromium [He]	0.100	0.00016	0.00100	"	0.100	ND	100	70-130			
Lead [He]	0.098	0.00022	0.00100	"	0.100	ND	98.2	70-130			
Nickel [He]	0.097	0.00035	0.0400	"	0.100	ND	96.7	70-130			
Matrix Spike Dup (3D10041-MSD1)			**Source: 2304105-01**								
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100	ND	102	70-130	1.03	20	
Chromium [He]	0.101	0.00016	0.00100	"	0.100	ND	101	70-130	0.881	20	
Lead [He]	0.100	0.00022	0.00100	"	0.100	ND	100	70-130	1.92	20	
Nickel [He]	0.097	0.00035	0.0400	"	0.100	ND	97.4	70-130	0.770	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D13006 - EPA 3510C DCN 4000 Rev 12											
Blank (3D13006-BLK1)											
Acenaphthene	ND	1.85	10.0	ug/L							
Acenaphthylene	ND	2.20	10.0	"							
Anthracene	ND	2.20	10.0	"							
Benzo (a) anthracene	ND	2.34	10.0	"							
Benzo (b) fluoranthene	ND	2.46	10.0	"							
Benzo (k) fluoranthene	ND	2.91	10.0	"							
Benzo (a) pyrene	ND	2.63	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	3.06	10.0	"							
Carbazole	ND	3.34	10.0	"							
4-Chloro-3-methylphenol	ND	2.37	10.0	"							
Chrysene	ND	2.26	10.0	"							
Dibenz (a,h) anthracene	ND	1.41	10.0	"							
Dibenzofuran	ND	2.07	10.0	"							
2,4-Dimethylphenol	ND	1.26	10.0	"							
2,4-Dinitrophenol	ND	2.62	10.0	"							
Di-n-octyl phthalate	ND	3.40	10.0	"							
Fluoranthene	ND	2.01	10.0	"							
Fluorene	ND	2.22	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	2.49	10.0	"							
2-Methylnaphthalene	ND	2.11	10.0	"							
2-Methylphenol	ND	1.78	10.0	"							
3 & 4-Methylphenol	ND	1.73	10.0	"							
Naphthalene	ND	1.95	10.0	"							
Pentachlorophenol	ND	2.98	10.0	"							
Phenanthrene	ND	2.44	10.0	"							
Pyrene	ND	2.93	10.0	"							
2,4,6-Trichlorophenol	ND	1.96	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*79.1*			"	*100*		*79.1*	*15.8-107*			
Surrogate: 2-Fluorobiphenyl	*31.4*			"	*50.0*		*62.8*	*14.6-104*			
Surrogate: 2-Fluorophenol	*39.6*			"	*100*		*39.6*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.1*			"	*50.0*		*58.2*	*10-108*			
Surrogate: Phenol-d5	*29.6*			"	*100*		*29.6*	*10-100*			
Surrogate: Terphenyl-dl4	*25.4*			"	*50.0*		*50.9*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D13006 - EPA 3510C DCN 4000 Rev 12											
LCS (3D13006-BS1)											
Acenaphthene	54.0	1.85	10.0	ug/L	100		54.0	34.2-100			
Acenaphthylene	61.2	2.20	10.0	"	100		61.2	25.3-109			
Anthracene	57.4	2.20	10.0	"	100		57.4	35.2-100			
Benzo (a) anthracene	65.6	2.34	10.0	"	100		65.6	35.2-100			
Benzo (b) fluoranthene	63.4	2.46	10.0	"	100		63.4	30.2-101			
Benzo (k) fluoranthene	62.6	2.91	10.0	"	100		62.6	29.8-101			
Benzo (a) pyrene	63.5	2.63	10.0	"	100		63.5	32.8-105			
Bis(2-ethylhexyl)phthalate	69.7	3.06	10.0	"	100		69.7	23.6-121			
Carbazole	77.5	3.34	10.0	"	100		77.5	10-145			
4-Chloro-3-methylphenol	66.4	2.37	10.0	"	100		66.4	39.5-100			
Chrysene	66.7	2.26	10.0	"	100		66.7	14.3-109			
Dibenz (a,h) anthracene	68.7	1.41	10.0	"	100		68.7	15.2-113			
Dibenzofuran	60.7	2.07	10.0	"	100		60.7	35-100			
2,4-Dimethylphenol	56.5	1.26	10.0	"	100		56.5	32.5-100			
2,4-Dinitrophenol	79.7	2.62	10.0	"	100		79.7	10-133			
Di-n-octyl phthalate	67.2	3.40	10.0	"	100		67.2	10-127			
Fluoranthene	65.5	2.01	10.0	"	100		65.5	19.8-125			
Fluorene	63.8	2.22	10.0	"	100		63.8	31.2-105			
Indeno (1,2,3-cd) pyrene	64.3	2.49	10.0	"	100		64.3	25.2-107			
2-Methylnaphthalene	54.3	2.11	10.0	"	100		54.3	22.3-100			
2-Methylphenol	47.8	1.78	10.0	"	100		47.8	28.1-100			
3 & 4-Methylphenol	91.0	1.73	10.0	"	200		45.5	24.5-100			
Naphthalene	51.7	1.95	10.0	"	100		51.7	23.4-100			
Pentachlorophenol	75.8	2.98	10.0	"	100		75.8	10-102			
Phenanthrene	59.2	2.44	10.0	"	100		59.2	34.8-100			
Pyrene	59.6	2.93	10.0	"	100		59.6	10-124			
2,4,6-Trichlorophenol	70.5	1.96	10.0	"	100		70.5	38.3-100			
Surrogate: 2,4,6-Tribromophenol	*90.7*			"	*100*		*90.7*	*15.8-107*			
Surrogate: 2-Fluorobiphenyl	*34.2*			"	*50.0*		*68.4*	*14.6-104*			
Surrogate: 2-Fluorophenol	*39.4*			"	*100*		*39.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*34.3*			"	*50.0*		*68.6*	*10-108*			
Surrogate: Phenol-d5	*31.9*			"	*100*		*31.9*	*10-100*			
Surrogate: Terphenyl-dl4	*30.7*			"	*50.0*		*61.4*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D13006 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3D13006-BSD1)											
Acenaphthene	51.1	1.85	10.0	ug/L	100		51.1	34.2-100	5.65	40	
Acenaphthylene	55.7	2.20	10.0	"	100		55.7	25.3-109	9.47	40	
Anthracene	52.5	2.20	10.0	"	100		52.5	35.2-100	8.93	40	
Benzo (a) anthracene	62.4	2.34	10.0	"	100		62.4	35.2-100	5.03	40	
Benzo (b) fluoranthene	60.0	2.46	10.0	"	100		60.0	30.2-101	5.48	40	
Benzo (k) fluoranthene	56.2	2.91	10.0	"	100		56.2	29.8-101	10.7	40	
Benzo (a) pyrene	59.7	2.63	10.0	"	100		59.7	32.8-105	6.27	40	
Bis(2-ethylhexyl)phthalate	64.9	3.06	10.0	"	100		64.9	23.6-121	7.09	40	
Carbazole	70.0	3.34	10.0	"	100		70.0	10-145	10.2	40	
4-Chloro-3-methylphenol	63.3	2.37	10.0	"	100		63.3	39.5-100	4.81	40	
Chrysene	62.5	2.26	10.0	"	100		62.5	14.3-109	6.64	40	
Dibenz (a,h) anthracene	71.7	1.41	10.0	"	100		71.7	15.2-113	4.24	40	
Dibenzofuran	54.8	2.07	10.0	"	100		54.8	35-100	10.2	40	
2,4-Dimethylphenol	54.7	1.26	10.0	"	100		54.7	32.5-100	3.17	40	
2,4-Dinitrophenol	42.3	2.62	10.0	"	100		42.3	10-133	61.3	40	L3
Di-n-octyl phthalate	56.4	3.40	10.0	"	100		56.4	10-127	17.4	40	
Fluoranthene	60.2	2.01	10.0	"	100		60.2	19.8-125	8.55	40	
Fluorene	60.4	2.22	10.0	"	100		60.4	31.2-105	5.54	40	
Indeno (1,2,3-cd) pyrene	69.0	2.49	10.0	"	100		69.0	25.2-107	7.14	40	
2-Methylnaphthalene	49.9	2.11	10.0	"	100		49.9	22.3-100	8.54	40	
2-Methylphenol	44.4	1.78	10.0	"	100		44.4	28.1-100	7.42	40	
3 & 4-Methylphenol	87.0	1.73	10.0	"	200		43.5	24.5-100	4.50	40	
Naphthalene	47.0	1.95	10.0	"	100		47.0	23.4-100	9.48	40	
Pentachlorophenol	52.4	2.98	10.0	"	100		52.4	10-102	36.4	40	
Phenanthrene	53.5	2.44	10.0	"	100		53.5	34.8-100	10.1	40	
Pyrene	52.3	2.93	10.0	"	100		52.3	10-124	13.1	40	
2,4,6-Trichlorophenol	64.0	1.96	10.0	"	100		64.0	38.3-100	9.65	40	
Surrogate: 2,4,6-Tribromophenol	*82.7*			"	*100*		*82.7*	*15.8-107*			
Surrogate: 2-Fluorobiphenyl	*30.6*			"	*50.0*		*61.1*	*14.6-104*			
Surrogate: 2-Fluorophenol	*37.4*			"	*100*		*37.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.8*			"	*50.0*		*61.5*	*10-108*			
Surrogate: Phenol-d5	*30.8*			"	*100*		*30.8*	*10-100*			
Surrogate: Terphenyl-dl4	*28.4*			"	*50.0*		*56.7*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D13006 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3D13006-DUP1)			**Source: 2304120-01**								
Acenaphthene	51.0	1.96	10.6	ug/L		52.5			2.85	45	
Acenaphthylene	ND	2.33	10.6	"		ND				45	
Anthracene	ND	2.33	10.6	"		ND				45	
Benzo (a) anthracene	8.39	2.48	10.6	"		12.1			36.1	45	J
Benzo (b) fluoranthene	ND	2.60	10.6	"		ND				45	
Benzo (k) fluoranthene	ND	3.08	10.6	"		ND				45	
Benzo (a) pyrene	ND	2.78	10.6	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	3.24	10.6	"		ND				45	
Carbazole	ND	3.53	10.6	"		ND				45	
4-Chloro-3-methylphenol	ND	2.51	10.6	"		ND				45	
Chrysene	ND	2.39	10.6	"		ND				45	
Dibenz (a,h) anthracene	ND	1.49	10.6	"		ND				45	
Dibenzofuran	ND	2.19	10.6	"		ND				45	
2,4-Dimethylphenol	ND	1.33	10.6	"		ND				45	
2,4-Dinitrophenol	ND	2.77	10.6	"		ND				45	
Di-n-octyl phthalate	ND	3.60	10.6	"		ND				45	
Fluoranthene	54.1	2.13	10.6	"		60.9			11.9	45	
Fluorene	ND	2.35	10.6	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	2.63	10.6	"		ND				45	
2-Methylnaphthalene	ND	2.23	10.6	"		ND				45	
2-Methylphenol	ND	1.88	10.6	"		ND				45	
3 & 4-Methylphenol	ND	1.83	10.6	"		ND				45	
Naphthalene	ND	2.06	10.6	"		ND				45	
Pentachlorophenol	ND	3.15	10.6	"		ND				45	
Phenanthrene	7.75	2.58	10.6	"		14.0			57.7	45	J, P3
Pyrene	37.4	3.10	10.6	"		46.1			20.9	45	
2,4,6-Trichlorophenol	ND	2.07	10.6	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*103*			"	*106*		*97.1*	*15.8-107*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*35.8*			"	*52.9*		*67.7*	*14.6-104*			
Surrogate: 2-Fluorophenol	*48.0*			"	*106*		*45.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*40.4*			"	*52.9*		*76.3*	*10-108*			
Surrogate: Phenol-d5	*36.8*			"	*106*		*34.8*	*10-100*			
Surrogate: Terphenyl-dl4	*24.9*			"	*52.9*		*47.0*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D10034 - EPA 5030B											
Blank (3D10034-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.0*			"	*50.0*		*98.1*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.4*			"	*50.0*		*96.8*	*80.2-119*			
Surrogate: Toluene-d8	*47.8*			"	*50.0*		*95.6*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*76.1-131*			
LCS (3D10034-BS1)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.5	68-136			
Ethylbenzene	17.9	0.190	5.00	"	20.0		89.3	70.3-136			
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*50.0*			"	*50.0*		*100*	*80.2-119*			
Surrogate: Toluene-d8	*48.9*			"	*50.0*		*97.7*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.9*			"	*50.0*		*102*	*76.1-131*			
LCS Dup (3D10034-BSD1)											
Benzene	19.4	0.258	5.00	ug/L	20.0		97.1	68-136	2.39	30	
Ethylbenzene	17.8	0.190	5.00	"	20.0		88.9	70.3-136	0.449	30	
Surrogate: Dibromofluoromethane	*50.2*			"	*50.0*		*100*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.8*	*80.2-119*			
Surrogate: Toluene-d8	*48.4*			"	*50.0*		*96.9*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.7*			"	*50.0*		*101*	*76.1-131*			
Matrix Spike (3D10034-MS1)		**Source: 2303433-01**									
Benzene	25.8	0.258	5.00	ug/L	20.0	ND	129	68-144			
Ethylbenzene	23.7	0.190	5.00	"	20.0	ND	118	69.2-134			
Surrogate: Dibromofluoromethane	*50.4*			"	*50.0*		*101*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.1*			"	*50.0*		*96.3*	*80.2-119*			
Surrogate: Toluene-d8	*49.1*			"	*50.0*		*98.1*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*51.0*			"	*50.0*		*102*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3D10034 - EPA 5030B											
Matrix Spike Dup (3D10034-MSD1)			**Source: 2303433-01**								
Benzene	24.9	0.258	5.00	ug/L	20.0	ND	124	68-144	3.91	35	
Ethylbenzene	22.2	0.190	5.00	"	20.0	ND	111	69.2-134	6.63	35	
Surrogate: Dibromofluoromethane	*51.2*			*"*	*50.0*		*102*	*77.2-120*			
Surrogate: 1,2-Dichloroethane-d4	*48.3*			*"*	*50.0*		*96.6*	*80.2-119*			
Surrogate: Toluene-d8	*48.7*			*"*	*50.0*		*97.3*	*73-122*			
Surrogate: 4-Bromofluorobenzene	*50.7*			*"*	*50.0*		*101*	*76.1-131*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzyl alcohol	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Butyl benzyl phthalate	C01,C02
Carbazole	C01,C02
4-Chloroaniline	C01,C02
4-Chloro-3-methylphenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
04/25/2023 12:50

2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 04/25/2023 12:50

Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 04/25/2023 12:50

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2023*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2023*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	04/25/2023 12:50

Analyst Initials Key

FullName	Initials
Alexandria S Calloway	ASC
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2304120

Company Name: Cavenham Forest Ind	Project Manager: Esther Allen
Address: P.O Box 15369	Purchase Order #:
City: Hattiesburg State: MS Zip: 39404	Email Address : eallen@env-mgt.com
Phone: 601-544-3674	Sampler Name Printed: Jeff Conselin
Fax: 601-544-0504	Sampler Name Signed:
Project Name: Mobile CH2 1st Qtr 2023	
Project #:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

X Normal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	Preservative:	pH, cond	chlorides	Nitrate	Ammonia	Metals	BNA	VOA
T-2	4/5/23 15:30	W	7	G		X	X	X	X	X	X	X
GC-Sump	4/5/23 16:20	W	4	G		X	X	X	X		X	X
T13V H 2100	4/5/23 15:30	W	2	C								X

Received on Ice: Y / N Thermometer# 5 Cooler # Client **Receipt Temp Corrected(°C)** 0.6°C

Date & Time _____ By: _____ Sample____ Blank X Cooler____

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Conselin		EMS	4/6/23	9:43
Received by	Sarah Tomek		MM	4/6/23	0843
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

October 06, 2023

Ethan Allen

Work Order # : 2309458

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 09/28/2023 08:37. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-1	2309458-01	Water	09/27/2023 15:00	*Jeff Gonsoulin*	09/28/2023 08:37
Mobile/RC-1A	2309458-02	Water	09/27/2023 15:30	*Jeff Gonsoulin*	09/28/2023 08:37
Trip Blank TBV#7223	2309458-03	Water	09/27/2023 15:00	*Micro Methods*	09/28/2023 08:37

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Sample Receipt Conditions

Date/Time Received: 9/28/2023 8:37:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 9/28/2023 8:55:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/06/2023 11:54

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 10/06/2023 11:54

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV outside acceptance limits. Sample results reported from this calibration were below the reporting limits.

Acenaphthylene, Benzo (b) fluoranthene

2309458-01[Mobile/RC-1], 2309458-02[Mobile/RC-1A], 3I28006-BLK1, 3I28006-DUP1

CC-03 CCV outside acceptance limits. QC Results reported from this calibration within acceptance limits.

Acenaphthylene, Benzo (b) fluoranthene

3I28006-BS1, 3I28006-BSD1, 3I28006-MS1

DL-6 Dilution required. Lowest achievable MRL due to matrix interterence.

2,4-Dimethylphenol, 2-Methylnaphthalene, 4-Chloro-3-methylphenol

2309458-02[Mobile/RC-1A], 2309458-01[Mobile/RC-1]

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2-Methylnaphthalene, Anthracene, Dibenz (a,h) anthracene, Fluoranthene

2309458-02[Mobile/RC-1A], 2309458-01[Mobile/RC-1]

M1 MS/MSD Recovery limit exceeded.

Carbazole

3I28006-MS1

Ammonia as N-Lachat 10-107-06-1-I

Qualifiers:

RPD04 The RPD between the sample and sample duplicate exceeded the acceptance limits.

Ammonia as N

3I28009-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/06/2023 11:54

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2309458-01[Mobile/RC-1], 2309458-02[Mobile/RC-1A], 3I28023-DUP1, 3I28023-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Mobile/RC-1

2309458-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**6.97**	0.04	0.21	mg/L	1.0	3I28009	ASW	09/28/2023 09:00	09/28/2023 10:25	Lachat 10-107-06-1-I	
Chloride	**171**	1.32	4.00	"	2.0	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**6.50**			pH Units	1.0	3I28023	CRG	09/28/2023 15:15	09/28/2023 15:54	SM 4500-H+B-2011	
Nitrate as N	**0.643**	0.097	0.500	mg/L	"	3I29010	DLW	09/29/2023 07:15	09/29/2023 07:15	HACH 10206	
Specific Conductance (EC)	**1160**			umhos/cm @25.0 C	"	3I28020	JBM	09/28/2023 15:13	09/28/2023 15:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3I29004	GWG	09/29/2023 08:30	10/03/2023 15:50	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**429**	19.1	103	ug/L	10.0	3I28006	CRLV	09/28/2023 09:24	10/03/2023 05:53	EPA 8270D	
Acenaphthylene	ND	2.27	10.3	"	1.0	"	CRLV	"	10/03/2023 07:11	"	CC-01
Anthracene	**15.6**	2.27	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	2.41	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.54	10.3	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	3.00	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.71	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.15	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	3.44	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	24.4	103	"	10.0	"	CRLV	"	10/03/2023 05:53	"	DL-6
Chrysene	ND	2.33	10.3	"	1.0	"	CRLV	"	10/03/2023 07:11	"	
Dibenz (a,h) anthracene	**1.68**	1.45	10.3	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**135**	2.13	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**479**	13.0	103	"	10.0	"	CRLV	"	10/03/2023 05:53	"	
2,4-Dinitrophenol	ND	2.70	10.3	"	1.0	"	CRLV	"	10/03/2023 07:11	"	
Di-n-octyl phthalate	ND	3.51	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**27.9**	2.07	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**145**	2.29	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.57	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**411**	21.8	103	"	10.0	"	CRLV	"	10/03/2023 05:53	"	
2-Methylphenol	ND	1.84	10.3	"	1.0	"	CRLV	"	10/03/2023 07:11	"	
3 & 4-Methylphenol	**11.6**	1.78	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**9620**	201	1030	"	100.0	"	CRLV	"	10/03/2023 05:14	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Mobile/RC-1

2309458-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Pentachlorophenol	ND	3.07	10.3	"	1.0	3I28006	CRLV	09/28/2023 09:24	10/03/2023 07:11	"	
Phenanthrene	**140**	2.52	10.3	"	"	"	CRLV	"	"	"	
Pyrene	**11.4**	3.02	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.02	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	96.9	*94.0 %*	*24.2-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	32.0	*62.1 %*	*17.3-101*	"	CRLV	"	"	"	
2-Fluorophenol	31.1	*30.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	30.5	*59.2 %*	*10-111*	"	CRLV	"	*10/03/2023 05:53*	"	
Phenol-d5	22.5	*21.8 %*	*10.8-100*	"	CRLV	"	*10/03/2023 07:11*	"	
Terphenyl-dl4	13.3	*25.8 %*	*10-102*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	**13.3**	0.258	5.00	ug/L	1.0	3J05009	BSF	10/04/2023 08:00	10/04/2023 15:38	EPA 8260D	
Ethylbenzene	**47.9**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.8	*102 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	56.0	*112 %*	*80.6-130*	"	BSF	"	"	"	
Toluene-d8	47.7	*95.4 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	54.0	*108 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Mobile/RC-1A

2309458-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.48**	0.04	0.21	mg/L	1.0	3I28009	ASW	09/28/2023 09:00	09/28/2023 10:26	Lachat 10-107-06-1-I	
Chloride	**132**	1.32	4.00	"	2.0	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**6.28**			pH Units	1.0	3I28023	CRG	09/28/2023 15:20	09/28/2023 15:54	SM 4500-H+B-2011	
Nitrate as N	ND	0.097	0.500	mg/L	"	3I29010	DLW	09/29/2023 07:15	09/29/2023 07:15	HACH 10206	
Specific Conductance (EC)	**784**			umhos/cm @25.0 C	"	3I28020	JBM	09/28/2023 15:13	09/28/2023 15:15	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3I29004	GWG	09/29/2023 08:30	10/03/2023 15:54	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Mobile/RC-1A

2309458-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**379**	19.0	103	ug/L	10.0	3I28006	CRLV	09/28/2023 09:24	10/03/2023 06:32	EPA 8270D	
Acenaphthylene	ND	2.26	10.3	"	1.0	"	CRLV	"	10/03/2023 07:50	"	CC-01
Anthracene	**7.22**	2.26	10.3	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	2.40	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.52	10.3	"	"	"	CRLV	"	"	"	CC-01
Benzo (k) fluoranthene	ND	2.98	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.69	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.14	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	3.43	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	24.3	103	"	10.0	"	CRLV	"	10/03/2023 06:32	"	DL-6
Chrysene	ND	2.32	10.3	"	1.0	"	CRLV	"	10/03/2023 07:50	"	
Dibenz (a,h) anthracene	ND	1.45	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**132**	2.12	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	12.9	103	"	10.0	"	CRLV	"	10/03/2023 06:32	"	DL-6
2,4-Dinitrophenol	ND	2.69	10.3	"	1.0	"	CRLV	"	10/03/2023 07:50	"	
Di-n-octyl phthalate	ND	3.49	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**4.88**	2.06	10.3	"	"	"	CRLV	"	"	"	J
Fluorene	**138**	2.28	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.55	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**90.9**	21.6	103	"	10.0	"	CRLV	"	10/03/2023 06:32	"	DL-6, J
2-Methylphenol	ND	1.83	10.3	"	1.0	"	CRLV	"	10/03/2023 07:50	"	
3 & 4-Methylphenol	ND	1.77	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**3740**	200	1030	"	100.0	"	CRLV	"	10/03/2023 11:12	"	
Pentachlorophenol	ND	3.06	10.3	"	1.0	"	CRLV	"	10/03/2023 07:50	"	
Phenanthrene	**103**	2.50	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	3.01	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.01	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	108	*106 %*	*24.2-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	34.5	*67.2 %*	*17.3-101*	"	CRLV	"	"	"	
2-Fluorophenol	35.7	*34.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	29.9	*58.4 %*	*10-111*	"	CRLV	"	*10/03/2023 06:32*	"	
Phenol-d5	27.4	*26.7 %*	*10.8-100*	"	CRLV	"	*10/03/2023 07:50*	"	
Terphenyl-dl4	15.9	*31.0 %*	*10-102*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Mobile/RC-1A

2309458-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**6.77**	0.258	5.00	ug/L	1.0	3J05009	BSF	10/04/2023 08:00	10/04/2023 16:02	EPA 8260D	
Ethylbenzene	**31.7**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	49.9	*99.8 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	55.2	*110 %*	*80.6-130*	"	BSF	"	"	"	
Toluene-d8	46.9	*93.9 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.1	*104 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Trip Blank TBV#7223

2309458-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J05009	BSF	10/04/2023 08:00	10/04/2023 16:25	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.1	*100 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	55.1	*110 %*	*80.6-130*	"	BSF	"	"	"	
Toluene-d8	46.4	*92.8 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	53.8	*108 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I28009 - Default Prep GenChem											
Blank (3I28009-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3I28009-BS1)											
Ammonia as N	5.21	0.04	0.21	mg/L	5.00		104	90-110			
LCS Dup (3I28009-BSD1)											
Ammonia as N	5.17	0.04	0.21	mg/L	5.00		103	90-110	0.771	10	
Duplicate (3I28009-DUP1)			**Source: 2309362-01**								
Ammonia as N	0.44	0.04	0.21	mg/L		0.51			15.2	10	RPD04
Matrix Spike (3I28009-MS1)			**Source: 2309437-02**								
Ammonia as N	5.00	0.04	0.21	mg/L	5.00	0.11	97.9	90-110			
Matrix Spike Dup (3I28009-MSD1)			**Source: 2309437-02**								
Ammonia as N	5.13	0.04	0.21	mg/L	5.00	0.11	101	90-110	2.57	10	
Batch 3I28020 - Default Prep GenChem											
LCS (3I28020-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90.1-113			
LCS (3I28020-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3I28020-DUP1)			**Source: 2309434-03**								
Specific Conductance (EC)	267			umhos/cm @25.0 C		267			0.150	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I28023 - Default Prep GenChem											
Duplicate (3I28023-DUP1)			**Source: 2309458-02**								**HT-02**
pH	6.29			pH Units		6.28			0.159	5	
Duplicate (3I28023-DUP2)			**Source: 2309460-01**								**HT-02**
pH	6.79			pH Units		6.80			0.147	5	
Batch 3I29010 - Default Prep GenChem											
Blank (3I29010-BLK1)											
Nitrate as N	ND	0.097	0.500	mg/L							
LCS (3I29010-BS1)											
Nitrate as N	10.3	0.097	0.500	mg/L	10.0		103	90-110			
LCS Dup (3I29010-BSD1)											
Nitrate as N	10.2	0.097	0.500	mg/L	10.0		102	90-110	0.976	20	
Duplicate (3I29010-DUP1)			**Source: 2309465-02**								
Nitrate as N	0.496	0.097	0.500	mg/L		0.528			6.25	20	
Duplicate (3I29010-DUP2)			**Source: 2309460-01**								
Nitrate as N	2.07	0.097	0.500	mg/L		2.00			3.44	20	
Matrix Spike (3I29010-MS1)			**Source: 2309465-02**								
Nitrate as N	3.39	0.097	0.500	mg/L	3.00	0.528	95.4	90-110			
Matrix Spike Dup (3I29010-MSD1)			**Source: 2309465-02**								
Nitrate as N	3.41	0.097	0.500	mg/L	3.00	0.528	96.1	90-110	0.588	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05024 - Default Prep GenChem											
Blank (3J05024-BLK1)											
Chloride	ND	0.66	2.00	mg/L							
LCS (3J05024-BS1)											
Chloride	25.1	0.66	2.00	mg/L	25.0		100	85-115			
LCS Dup (3J05024-BSD1)											
Chloride	25.0	0.66	2.00	mg/L	25.0		100	85-115	0.399	30	
Duplicate (3J05024-DUP1)			**Source: 2310060-01**								
Chloride	3.54	0.66	2.00	mg/L		3.48			1.71	20	
Matrix Spike (3J05024-MS1)			**Source: 2310060-01**								
Chloride	22.4	0.66	2.00	mg/L	20.0	3.48	94.6	70-130			
Matrix Spike Dup (3J05024-MSD1)			**Source: 2310060-01**								
Chloride	22.8	0.66	2.00	mg/L	20.0	3.48	96.6	70-130	1.77	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I29004 - EPA 200.2 DCN 1017 Rev 10											
Blank (3I29004-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3I29004-BS1)											
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100		101	85-115			
Chromium [He]	0.107	0.00016	0.00100	"	0.100		107	85-115			
Lead [He]	0.105	0.00022	0.00100	"	0.100		105	85-115			
Nickel [He]	0.103	0.00035	0.0400	"	0.100		103	85-115			
LCS Dup (3I29004-BSD1)											
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100		102	85-115	0.430	20	
Chromium [He]	0.105	0.00016	0.00100	"	0.100		105	85-115	2.29	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100		103	85-115	1.51	20	
Nickel [He]	0.102	0.00035	0.0400	"	0.100		102	85-115	1.08	20	
Matrix Spike (3I29004-MS1)			**Source: 2309450-02**								
Arsenic [He]	0.124	0.00078	0.00200	mg/L	0.100	0.027	96.6	70-130			
Chromium [He]	0.099	0.00016	0.00100	"	0.100	0.005	94.3	70-130			
Lead [He]	0.105	0.00022	0.00100	"	0.100	0.0002	105	70-130			
Nickel [He]	0.113	0.00035	0.0400	"	0.100	0.026	87.2	70-130			
Matrix Spike Dup (3I29004-MSD1)			**Source: 2309450-02**								
Arsenic [He]	0.120	0.00078	0.00200	mg/L	0.100	0.027	93.3	70-130	2.74	20	
Chromium [He]	0.098	0.00016	0.00100	"	0.100	0.005	93.2	70-130	1.15	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100	0.0002	103	70-130	2.27	20	
Nickel [He]	0.111	0.00035	0.0400	"	0.100	0.026	84.5	70-130	2.36	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I28006 - EPA 3510C DCN 4000 Rev 12											
Blank (3I28006-BLK1)											
Acenaphthene	ND	1.85	10.0	ug/L							
Acenaphthylene	ND	2.20	10.0	"							CC-01
Anthracene	ND	2.20	10.0	"							
Benzo (a) anthracene	ND	2.34	10.0	"							
Benzo (b) fluoranthene	ND	2.46	10.0	"							CC-01
Benzo (k) fluoranthene	ND	2.91	10.0	"							
Benzo (a) pyrene	ND	2.63	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	3.06	10.0	"							
Carbazole	ND	3.34	10.0	"							
4-Chloro-3-methylphenol	ND	2.37	10.0	"							
Chrysene	ND	2.26	10.0	"							
Dibenz (a,h) anthracene	ND	1.41	10.0	"							
Dibenzofuran	ND	2.07	10.0	"							
2,4-Dimethylphenol	ND	1.26	10.0	"							
2,4-Dinitrophenol	ND	2.62	10.0	"							
Di-n-octyl phthalate	ND	3.40	10.0	"							
Fluoranthene	ND	2.01	10.0	"							
Fluorene	ND	2.22	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	2.49	10.0	"							
2-Methylnaphthalene	ND	2.11	10.0	"							
2-Methylphenol	ND	1.78	10.0	"							
3 & 4-Methylphenol	ND	1.73	10.0	"							
Naphthalene	ND	1.95	10.0	"							
Pentachlorophenol	ND	2.98	10.0	"							
Phenanthrene	ND	2.44	10.0	"							
Pyrene	ND	2.93	10.0	"							
2,4,6-Trichlorophenol	ND	1.96	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*88.7*			"	*100*		*88.7*	*24.2-116*			
Surrogate: 2-Fluorobiphenyl	*30.3*			"	*50.0*		*60.7*	*17.3-101*			
Surrogate: 2-Fluorophenol	*35.8*			"	*100*		*35.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.0*			"	*50.0*		*58.0*	*10-111*			
Surrogate: Phenol-d5	*24.3*			"	*100*		*24.3*	*10.8-100*			
Surrogate: Terphenyl-dl4	*20.5*			"	*50.0*		*40.9*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I28006 - EPA 3510C DCN 4000 Rev 12											
LCS (3I28006-BS1)											
Acenaphthene	59.2	1.85	10.0	ug/L	100		59.2	28.1-100			
Acenaphthylene	81.2	2.20	10.0	"	100		81.2	30.5-105			CC-03
Anthracene	62.3	2.20	10.0	"	100		62.3	34.1-100			
Benzo (a) anthracene	61.4	2.34	10.0	"	100		61.4	34.3-107			
Benzo (b) fluoranthene	55.5	2.46	10.0	"	100		55.5	32.6-101			CC-03
Benzo (k) fluoranthene	56.5	2.91	10.0	"	100		56.5	27-104			
Benzo (a) pyrene	59.0	2.63	10.0	"	100		59.0	31.7-100			
Bis(2-ethylhexyl)phthalate	62.9	3.06	10.0	"	100		62.9	10-146			
Carbazole	84.5	3.34	10.0	"	100		84.5	10-147			
4-Chloro-3-methylphenol	61.2	2.37	10.0	"	100		61.2	34.8-101			
Chrysene	62.4	2.26	10.0	"	100		62.4	35.2-105			
Dibenz (a,h) anthracene	60.1	1.41	10.0	"	100		60.1	25.9-116			
Dibenzofuran	60.1	2.07	10.0	"	100		60.1	37.3-100			
2,4-Dimethylphenol	53.2	1.26	10.0	"	100		53.2	30.1-100			
2,4-Dinitrophenol	62.6	2.62	10.0	"	100		62.6	11-124			
Di-n-octyl phthalate	59.5	3.40	10.0	"	100		59.5	10-136			
Fluoranthene	68.2	2.01	10.0	"	100		68.2	22.5-125			
Fluorene	62.6	2.22	10.0	"	100		62.6	31.2-106			
Indeno (1,2,3-cd) pyrene	59.8	2.49	10.0	"	100		59.8	17.7-123			
2-Methylnaphthalene	57.2	2.11	10.0	"	100		57.2	32.5-100			
2-Methylphenol	45.2	1.78	10.0	"	100		45.2	26.5-100			
3 & 4-Methylphenol	82.2	1.73	10.0	"	200		41.1	21.3-100			
Naphthalene	54.2	1.95	10.0	"	100		54.2	10-115			
Pentachlorophenol	64.8	2.98	10.0	"	100		64.8	25.8-110			
Phenanthrene	63.9	2.44	10.0	"	100		63.9	21.2-119			
Pyrene	58.8	2.93	10.0	"	100		58.8	10-129			
2,4,6-Trichlorophenol	63.1	1.96	10.0	"	100		63.1	41.3-100			
Surrogate: 2,4,6-Tribromophenol	*94.7*			"	*100*		*94.7*	*24.2-116*			
Surrogate: 2-Fluorobiphenyl	*31.8*			"	*50.0*		*63.6*	*17.3-101*			
Surrogate: 2-Fluorophenol	*39.1*			"	*100*		*39.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*33.6*			"	*50.0*		*67.2*	*10-111*			
Surrogate: Phenol-d5	*28.5*			"	*100*		*28.5*	*10.8-100*			
Surrogate: Terphenyl-dl4	*20.4*			"	*50.0*		*40.8*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I28006 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3I28006-BSD1)											
Acenaphthene	65.6	1.85	10.0	ug/L	100		65.6	28.1-100	10.3	40	
Acenaphthylene	97.3	2.20	10.0	"	100		97.3	30.5-105	18.1	40	CC-03
Anthracene	67.4	2.20	10.0	"	100		67.4	34.1-100	7.81	40	
Benzo (a) anthracene	66.4	2.34	10.0	"	100		66.4	34.3-107	7.78	40	
Benzo (b) fluoranthene	60.7	2.46	10.0	"	100		60.7	32.6-101	8.94	40	CC-03
Benzo (k) fluoranthene	64.4	2.91	10.0	"	100		64.4	27-104	13.0	40	
Benzo (a) pyrene	64.5	2.63	10.0	"	100		64.5	31.7-100	8.91	40	
Bis(2-ethylhexyl)phthalate	70.7	3.06	10.0	"	100		70.7	10-146	11.6	40	
Carbazole	84.9	3.34	10.0	"	100		84.9	10-147	0.449	40	
4-Chloro-3-methylphenol	66.1	2.37	10.0	"	100		66.1	34.8-101	7.81	40	
Chrysene	69.1	2.26	10.0	"	100		69.1	35.2-105	10.2	40	
Dibenz (a,h) anthracene	65.5	1.41	10.0	"	100		65.5	25.9-116	8.56	40	
Dibenzofuran	66.5	2.07	10.0	"	100		66.5	37.3-100	10.2	40	
2,4-Dimethylphenol	59.1	1.26	10.0	"	100		59.1	30.1-100	10.5	40	
2,4-Dinitrophenol	67.9	2.62	10.0	"	100		67.9	11-124	8.12	40	
Di-n-octyl phthalate	70.9	3.40	10.0	"	100		70.9	10-136	17.5	40	
Fluoranthene	70.3	2.01	10.0	"	100		70.3	22.5-125	3.03	40	
Fluorene	68.5	2.22	10.0	"	100		68.5	31.2-106	9.11	40	
Indeno (1,2,3-cd) pyrene	65.4	2.49	10.0	"	100		65.4	17.7-123	8.90	40	
2-Methylnaphthalene	63.6	2.11	10.0	"	100		63.6	32.5-100	10.5	40	
2-Methylphenol	51.1	1.78	10.0	"	100		51.1	26.5-100	12.2	40	
3 & 4-Methylphenol	90.8	1.73	10.0	"	200		45.4	21.3-100	9.97	40	
Naphthalene	61.8	1.95	10.0	"	100		61.8	10-115	13.1	40	
Pentachlorophenol	67.7	2.98	10.0	"	100		67.7	25.8-110	4.30	40	
Phenanthrene	69.3	2.44	10.0	"	100		69.3	21.2-119	8.10	40	
Pyrene	65.7	2.93	10.0	"	100		65.7	10-129	11.2	40	
2,4,6-Trichlorophenol	70.0	1.96	10.0	"	100		70.0	41.3-100	10.4	40	
Surrogate: 2,4,6-Tribromophenol	*97.3*			"	*100*		*97.3*	*24.2-116*			
Surrogate: 2-Fluorobiphenyl	*34.5*			"	*50.0*		*69.0*	*17.3-101*			
Surrogate: 2-Fluorophenol	*42.9*			"	*100*		*42.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*37.3*			"	*50.0*		*74.5*	*10-111*			
Surrogate: Phenol-d5	*30.3*			"	*100*		*30.3*	*10.8-100*			
Surrogate: Terphenyl-dl4	*22.8*			"	*50.0*		*45.6*	*10-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I28006 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3I28006-DUP1)			**Source: 2309434-05**								
Acenaphthene	ND	1.91	10.3	ug/L		ND				45	
Acenaphthylene	ND	2.27	10.3	"		ND				45	CC-01
Anthracene	ND	2.27	10.3	"		ND				45	
Benzo (a) anthracene	ND	2.41	10.3	"		ND				45	
Benzo (b) fluoranthene	ND	2.54	10.3	"		ND				45	CC-01
Benzo (k) fluoranthene	ND	3.00	10.3	"		ND				45	
Benzo (a) pyrene	ND	2.71	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	3.15	10.3	"		ND				45	
Carbazole	ND	3.44	10.3	"		ND				45	
4-Chloro-3-methylphenol	ND	2.44	10.3	"		ND				45	
Chrysene	ND	2.33	10.3	"		ND				45	
Dibenz (a,h) anthracene	ND	1.45	10.3	"		ND				45	
Dibenzofuran	ND	2.13	10.3	"		ND				45	
2,4-Dimethylphenol	ND	1.30	10.3	"		ND				45	
2,4-Dinitrophenol	ND	2.70	10.3	"		ND				45	
Di-n-octyl phthalate	ND	3.51	10.3	"		ND				45	
Fluoranthene	ND	2.07	10.3	"		ND				45	
Fluorene	ND	2.29	10.3	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	2.57	10.3	"		ND				45	
2-Methylnaphthalene	ND	2.18	10.3	"		ND				45	
2-Methylphenol	ND	1.84	10.3	"		ND				45	
3 & 4-Methylphenol	ND	1.78	10.3	"		ND				45	
Naphthalene	ND	2.01	10.3	"		ND				45	
Pentachlorophenol	ND	3.07	10.3	"		ND				45	
Phenanthrene	ND	2.52	10.3	"		ND				45	
Pyrene	ND	3.02	10.3	"		ND				45	
2,4,6-Trichlorophenol	ND	2.02	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*101*			"	*103*		*97.8*	*24.2-116*			
Surrogate: 2-Fluorobiphenyl	*30.2*			"	*51.5*		*58.6*	*17.3-101*			
Surrogate: 2-Fluorophenol	*34.8*			"	*103*		*33.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*28.7*			"	*51.5*		*55.6*	*10-111*			
Surrogate: Phenol-d5	*23.3*			"	*103*		*22.6*	*10.8-100*			
Surrogate: Terphenyl-dl4	*18.8*			"	*51.5*		*36.5*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I28006 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (3I28006-MS1)		**Source: 2309434-05**									
Acenaphthene	66.3	1.94	10.5	ug/L	105	ND	63.4	10-123			
Acenaphthylene	92.3	2.30	10.5	"	105	ND	88.2	31.6-103			CC-03
Anthracene	68.8	2.30	10.5	"	105	ND	65.7	19.3-110			
Benzo (a) anthracene	67.7	2.45	10.5	"	105	ND	64.7	20.5-114			
Benzo (b) fluoranthene	62.1	2.58	10.5	"	105	ND	59.3	21.3-104			CC-03
Benzo (k) fluoranthene	66.8	3.05	10.5	"	105	ND	63.8	22.1-106			
Benzo (a) pyrene	65.9	2.75	10.5	"	105	ND	63.0	25.9-101			
Bis(2-ethylhexyl)phthalate	71.4	3.20	10.5	"	105	ND	68.2	15.4-119			
Carbazole	207	3.50	10.5	"	105	ND	197	10-174			M1
4-Chloro-3-methylphenol	67.4	2.48	10.5	"	105	ND	64.4	22.4-107			
Chrysene	70.3	2.37	10.5	"	105	ND	67.1	16.9-115			
Dibenz (a,h) anthracene	68.1	1.48	10.5	"	105	ND	65.1	20.6-119			
Dibenzofuran	68.0	2.17	10.5	"	105	ND	64.9	34.3-102			
2,4-Dimethylphenol	59.3	1.32	10.5	"	105	ND	56.7	10-125			
2,4-Dinitrophenol	77.6	2.74	10.5	"	105	ND	74.1	10-127			
Di-n-octyl phthalate	70.7	3.56	10.5	"	105	ND	67.5	10-112			
Fluoranthene	73.9	2.10	10.5	"	105	ND	70.6	17-117			
Fluorene	70.5	2.32	10.5	"	105	ND	67.3	10-128			
Indeno (1,2,3-cd) pyrene	67.9	2.61	10.5	"	105	ND	64.9	12.6-120			
2-Methylnaphthalene	64.0	2.21	10.5	"	105	ND	61.2	26.9-100			
2-Methylphenol	50.6	1.86	10.5	"	105	ND	48.3	24.8-100			
3 & 4-Methylphenol	90.4	1.81	10.5	"	209	ND	43.2	22-100			
Naphthalene	61.5	2.04	10.5	"	105	ND	58.8	14.2-100			
Pentachlorophenol	78.8	3.12	10.5	"	105	ND	75.3	10-131			
Phenanthrene	71.5	2.55	10.5	"	105	ND	68.2	28.8-105			
Pyrene	67.3	3.07	10.5	"	105	ND	64.3	10-129			
2,4,6-Trichlorophenol	70.9	2.05	10.5	"	105	ND	67.7	30.2-105			
Surrogate: 2,4,6-Tribromophenol	*103*			"	*105*		*98.1*	*24.2-116*			
Surrogate: 2-Fluorobiphenyl	*35.2*			"	*52.4*		*67.2*	*17.3-101*			
Surrogate: 2-Fluorophenol	*44.0*			"	*105*		*42.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*37.0*			"	*52.4*		*70.7*	*10-111*			
Surrogate: Phenol-d5	*31.2*			"	*105*		*29.8*	*10.8-100*			
Surrogate: Terphenyl-dl4	*20.3*			"	*52.4*		*38.7*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05009 - EPA 5030B											
Blank (3J05009-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*50.2*			"	*50.0*		*100*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*55.6*			"	*50.0*		*111*	*80.6-130*			
Surrogate: Toluene-d8	*46.9*			"	*50.0*		*93.8*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*54.2*			"	*50.0*		*108*	*76.7-123*			
LCS (3J05009-BS1)											
Benzene	18.3	0.258	5.00	ug/L	20.0		91.3	62.8-141			
Ethylbenzene	17.0	0.190	5.00	"	20.0		84.8	66.9-139			
Surrogate: Dibromofluoromethane	*54.0*			"	*50.0*		*108*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*58.6*			"	*50.0*		*117*	*80.6-130*			
Surrogate: Toluene-d8	*47.9*			"	*50.0*		*95.9*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*53.9*			"	*50.0*		*108*	*76.7-123*			
LCS Dup (3J05009-BSD1)											
Benzene	20.5	0.258	5.00	ug/L	20.0		102	62.8-141	11.5	30	
Ethylbenzene	18.6	0.190	5.00	"	20.0		93.2	66.9-139	9.50	30	
Surrogate: Dibromofluoromethane	*54.7*			"	*50.0*		*109*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*56.7*			"	*50.0*		*113*	*80.6-130*			
Surrogate: Toluene-d8	*48.0*			"	*50.0*		*95.9*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*53.9*			"	*50.0*		*108*	*76.7-123*			
Duplicate (3J05009-DUP1)			**Source: 2309458-01**								
Benzene	14.8	0.258	5.00	ug/L		13.3			10.3	35	
Ethylbenzene	52.9	0.190	5.00	"		47.9			9.94	35	
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*54.9*			"	*50.0*		*110*	*80.6-130*			
Surrogate: Toluene-d8	*47.3*			"	*50.0*		*94.7*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*54.0*			"	*50.0*		*108*	*76.7-123*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chloroethylvinyl ether	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02
1,2-Dichloroethene (total)	C01,C02
1,3-Dichloropropene (total)	C01,C02
Xylenes (total)	C01

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzyl alcohol	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Butyl benzyl phthalate	C01,C02
Carbazole	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/06/2023 11:54

4-Chloroaniline	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 10/06/2023 11:54

Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 10/06/2023 11:54

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2024*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2024*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/06/2023 11:54

Analyst Initials Key

FullName	Initials
Alexandria S Windham	ASW
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2309458

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting

Our normal turn around time is 10 working days

- X Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 3RD QTR 2023

Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COD	CHLORIDE	NITRATE	METALS	BNA	VOA
Preservative:										
RC-1	9-27-23/15:00	W	7	G	X	X	X	X	X	X
RC-1A	9-27-23/15:30	W	7	G	X	X	X	X	X	X
TBV#7223	9-27-23/15:00	W	2	G						X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: (Y) N Thermometer# 5 Cooler # client **Receipt Temp Corrected(°C)** 0.4°C

Date & Time _____ By: _____ Sample____ Blank X Cooler_____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		FEMS	9-28-23	8:37
Received by	Sarah Tomek	Sarah Tomek	MM	9/28/23	0837
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

October 09, 2023

Ethan Allen

Work Order # : 2309479

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 09/29/2023 08:00. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-2A	2309479-01	Water	09/28/2023 12:15	*Jeff Gonsoulin*	09/29/2023 08:00
Mobile/RC-3A	2309479-02	Water	09/28/2023 12:35	*Jeff Gonsoulin*	09/29/2023 08:00
Trip Blank TBV#7224	2309479-03	Water	09/28/2023 12:15	*Micro Methods*	09/29/2023 08:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Sample Receipt Conditions

Date/Time Received: 9/29/2023 8:00:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 9/29/2023 8:10:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/09/2023 15:35

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/09/2023 15:35

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV outside acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4,6-Trichlorophenol, 2,4-Dinitrophenol, Acenaphthylene, Bis(2-ethylhexyl)phthalate, Carbazole, Pyrene

3J04037-BLK1, 2309479-01[Mobile/RC-2A], 2309479-02[Mobile/RC-3A], 3J04037-DUP1

CC-03 CCV outside acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrophenol, Acenaphthylene, Bis(2-ethylhexyl)phthalate, Pyrene, Terphenyl-dl4

2309479-01[Mobile/RC-2A], 2309479-02[Mobile/RC-3A], 3J04037-BLK1, 3J04037-BS1, 3J04037-BSD1, 3J04037-DUP1

CC-04 CCV outside acceptance limits. Results reported are estimated values.

Carbazole

3J04037-BSD1

J1 Estimated value. See Narrative.

Carbazole, Dibenz (a,h) anthracene, Fluoranthene, Naphthalene, Pyrene

2309479-02[Mobile/RC-3A], 2309479-01[Mobile/RC-2A], 3J04037-DUP1

L1 LCS and/or LCSD Recovery Limit exceeded.

Carbazole

3J04037-BS1, 3J04037-BSD1

Nitrate Nitrogen Hach-HACH 10206

Qualifiers:

CC-02 ICV outside the acceptance limit. Sample results reported from calibration were below the reporting limits.

Nitrate as N

2309479-01[Mobile/RC-2A], 2309479-02[Mobile/RC-3A]

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/09/2023 15:35

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2309479-01[Mobile/RC-2A], 2309479-02[Mobile/RC-3A], 3I29022-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Mobile/RC-2A

2309479-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.57**	0.04	0.21	mg/L	1.0	3J04055	ASW	10/04/2023 10:00	10/04/2023 12:29	Lachat 10-107-06-1-I	
Chloride	**46.0**	0.66	2.00	"	"	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**6.07**			pH Units	"	3I29022	JBM	09/29/2023 13:57	09/29/2023 13:58	SM 4500-H+B-2011	
Nitrate as N	ND	0.097	0.500	mg/L	"	3I29010	DLW	09/29/2023 08:10	09/29/2023 08:10	HACH 10206	CC-02
Specific Conductance (EC)	**295**			umhos/cm @25.0 C	"	3J04034	JBM	10/04/2023 09:22	10/04/2023 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J02032	GWG	10/02/2023 12:00	10/03/2023 15:59	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**361**	19.5	105	ug/L	10.0	3J04037	CRLV	10/04/2023 09:32	10/06/2023 13:33	EPA 8270D	
Acenaphthylene	ND	2.32	10.5	"	1.0	"	CRLV	"	10/06/2023 00:03	"	CC-01
Anthracene	**15.3**	2.32	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	2.46	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.59	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	3.06	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.76	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.22	10.5	"	"	"	CRLV	"	"	"	
Carbazole	**794**	35.2	105	"	10.0	"	CRLV	"	10/09/2023 12:40	"	
4-Chloro-3-methylphenol	ND	2.49	10.5	"	1.0	"	CRLV	"	10/06/2023 00:03	"	
Chrysene	ND	2.38	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**1.79**	1.48	10.5	"	"	"	CRLV	"	"	"	J1
Dibenzofuran	**108**	2.18	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.33	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.76	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.58	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	**17.7**	2.12	10.5	"	"	"	CRLV	"	"	"	
Fluorene	**135**	2.34	10.5	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.62	10.5	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**11.4**	2.22	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	1.87	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.82	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	**453**	20.5	105	"	10.0	"	CRLV	"	10/06/2023 13:33	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Mobile/RC-2A

2309479-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Pentachlorophenol	ND	3.14	10.5	"	1.0	3J04037	CRLV	10/04/2023 09:32	10/06/2023 00:03	"	
Phenanthrene	**119**	2.57	10.5	"	"	"	CRLV	"	"	"	
Pyrene	**5.27**	3.08	10.5	"	"	"	CRLV	"	"	"	CC-01, J1
2,4,6-Trichlorophenol	ND	2.06	10.5	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	107	*101 %*	*24.2-116*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	29.5	*56.0 %*	*17.3-101*	"	CRLV	"	"	"	
2-Fluorophenol	19.4	*18.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	21.5	*40.8 %*	*10-111*	"	CRLV	"	"	"	
Phenol-d5	15.2	*14.5 %*	*10.8-100*	"	CRLV	"	"	"	
Terphenyl-dl4	21.9	*41.6 %*	*10-102*	"	CRLV	"	"	"	*CC-03*

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J05009	BSF	10/04/2023 08:00	10/04/2023 16:49	EPA 8260D	
Ethylbenzene	**8.67**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	49.3	*98.7 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	54.4	*109 %*	*80.6-130*	"	BSF	"	"	"	
Toluene-d8	46.4	*92.7 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.2	*104 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Mobile/RC-3A

2309479-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.05**	0.04	0.21	mg/L	1.0	3J04055	ASW	10/04/2023 10:00	10/04/2023 12:30	Lachat 10-107-06-1-I	
Chloride	**88.3**	0.66	2.00	"	"	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**5.97**			pH Units	"	3I29022	JBM	09/29/2023 13:57	09/29/2023 13:58	SM 4500-H+B-2011	
Nitrate as N	ND	0.097	0.500	mg/L	"	3I29010	DLW	09/29/2023 08:10	09/29/2023 08:10	HACH 10206	CC-02
Specific Conductance (EC)	**477**			umhos/cm @25.0 C	"	3J04034	JBM	10/04/2023 09:22	10/04/2023 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J02032	GWG	10/02/2023 12:00	10/03/2023 16:03	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Mobile/RC-3A

2309479-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**33.0**	1.93	10.4	ug/L	1.0	3J04037	CRLV	10/04/2023 09:32	10/06/2023 00:42	EPA 8270D	
Acenaphthylene	ND	2.29	10.4	"	"	"	CRLV	"	"	"	CC-01
Anthracene	ND	2.29	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	2.44	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.56	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	3.03	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.73	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.19	10.4	"	"	"	CRLV	"	"	"	
Carbazole	**6.83**	3.48	10.4	"	"	"	CRLV	"	"	"	CC-01, J1
4-Chloro-3-methylphenol	ND	2.47	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	2.35	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	1.47	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	2.16	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.31	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.73	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.54	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	**4.85**	2.09	10.4	"	"	"	CRLV	"	"	"	J1
Fluorene	**17.7**	2.31	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.59	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	2.20	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	1.85	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.80	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	**6.11**	2.03	10.4	"	"	"	CRLV	"	"	"	J1
Pentachlorophenol	ND	3.10	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	2.54	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	3.05	10.4	"	"	"	CRLV	"	"	"	CC-01
2,4,6-Trichlorophenol	ND	2.04	10.4	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	77.7	*74.6 %*	*24.2-116*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	19.1	*36.6 %*	*17.3-101*	"	CRLV	"	"	"	
2-Fluorophenol	21.5	*20.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	17.0	*32.6 %*	*10-111*	"	CRLV	"	"	"	
Phenol-d5	14.0	*13.4 %*	*10.8-100*	"	CRLV	"	"	"	
Terphenyl-dl4	19.9	*38.2 %*	*10-102*	"	CRLV	"	"	"	*CC-03*

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J05009	BSF	10/04/2023 08:00	10/04/2023 17:13	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/09/2023 15:35

Mobile/RC-3A

2309479-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.0	*100 %*	*73.6-118*	*3J05009*	BSF	*10/04/2023 08:00*	"	"	
1,2-Dichloroethane-d4	54.5	*109 %*	*80.6-130*	"	BSF	"	"	"	
Toluene-d8	45.6	*91.2 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	53.3	*107 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Trip Blank TBV#7224

2309479-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J05009	BSF	10/04/2023 08:00	10/04/2023 17:37	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	49.8	*99.6 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	55.0	*110 %*	*80.6-130*	"	BSF	"	"	"	
Toluene-d8	46.1	*92.2 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	53.8	*108 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3I29010 - Default Prep GenChem											
Blank (3I29010-BLK1)											
Nitrate as N	ND	0.097	0.500	mg/L							
LCS (3I29010-BS1)											
Nitrate as N	10.3	0.097	0.500	mg/L	10.0		103	90-110			
LCS Dup (3I29010-BSD1)											
Nitrate as N	10.2	0.097	0.500	mg/L	10.0		102	90-110	0.976	20	
Duplicate (3I29010-DUP1)			**Source: 2309465-02**								
Nitrate as N	0.496	0.097	0.500	mg/L		0.528			6.25	20	
Duplicate (3I29010-DUP2)			**Source: 2309460-01**								
Nitrate as N	2.07	0.097	0.500	mg/L		2.00			3.44	20	
Matrix Spike (3I29010-MS1)			**Source: 2309465-02**								
Nitrate as N	3.39	0.097	0.500	mg/L	3.00	0.528	95.4	90-110			
Matrix Spike Dup (3I29010-MSD1)			**Source: 2309465-02**								
Nitrate as N	3.41	0.097	0.500	mg/L	3.00	0.528	96.1	90-110	0.588	20	
Batch 3I29022 - Default Prep GenChem											
Duplicate (3I29022-DUP1)			**Source: 2309479-01**								**HT-02**
pH	6.09			pH Units		6.07			0.329	5	
Batch 3J04034 - Default Prep GenChem											
LCS (3J04034-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90.1-113			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04034 - Default Prep GenChem											
LCS (3J04034-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3J04034-DUP1)			**Source: 2310035-03**								
Specific Conductance (EC)	1170			umhos/cm @25.0 C		1170			0.171	20	
Batch 3J04055 - Default Prep GenChem											
Blank (3J04055-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3J04055-BS1)											
Ammonia as N	5.11	0.04	0.21	mg/L	5.00		102	90-110			
LCS Dup (3J04055-BSD1)											
Ammonia as N	5.07	0.04	0.21	mg/L	5.00		101	90-110	0.786	10	
Duplicate (3J04055-DUP1)			**Source: 2309464-01**								
Ammonia as N	4.35	0.04	0.21	mg/L		4.41			1.37	10	
Matrix Spike (3J04055-MS1)			**Source: 2310004-01**								
Ammonia as N	5.12	0.04	0.21	mg/L	5.00	0.11	100	90-110			
Matrix Spike Dup (3J04055-MSD1)			**Source: 2310004-01**								
Ammonia as N	5.04	0.04	0.21	mg/L	5.00	0.11	98.7	90-110	1.57	10	
Batch 3J05024 - Default Prep GenChem											
Blank (3J05024-BLK1)											
Chloride	ND	0.66	2.00	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05024 - Default Prep GenChem											
LCS (3J05024-BS1)											
Chloride	25.1	0.66	2.00	mg/L	25.0		100	85-115			
LCS Dup (3J05024-BSD1)											
Chloride	25.0	0.66	2.00	mg/L	25.0		100	85-115	0.399	30	
Duplicate (3J05024-DUP1)			**Source: 2310060-01**								
Chloride	3.54	0.66	2.00	mg/L		3.48			1.71	20	
Matrix Spike (3J05024-MS1)			**Source: 2310060-01**								
Chloride	22.4	0.66	2.00	mg/L	20.0	3.48	94.6	70-130			
Matrix Spike Dup (3J05024-MSD1)			**Source: 2310060-01**								
Chloride	22.8	0.66	2.00	mg/L	20.0	3.48	96.6	70-130	1.77	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J02032 - EPA 200.2 DCN 1017 Rev 10											
Blank (3J02032-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3J02032-BS1)											
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100		103	85-115			
Chromium [He]	0.107	0.00016	0.00100	"	0.100		107	85-115			
Lead [He]	0.105	0.00022	0.00100	"	0.100		105	85-115			
Nickel [He]	0.107	0.00035	0.0400	"	0.100		107	85-115			
LCS Dup (3J02032-BSD1)											
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100		102	85-115	0.848	20	
Chromium [He]	0.103	0.00016	0.00100	"	0.100		103	85-115	3.51	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100		103	85-115	1.78	20	
Nickel [He]	0.104	0.00035	0.0400	"	0.100		104	85-115	2.16	20	
Matrix Spike (3J02032-MS1)			**Source: 2310006-01**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130			
Chromium [He]	0.098	0.00016	0.00100	"	0.100	0.0003	97.3	70-130			
Lead [He]	0.104	0.00022	0.00100	"	0.100	ND	104	70-130			
Nickel [He]	0.098	0.00035	0.0400	"	0.100	0.001	96.5	70-130			
Matrix Spike (3J02032-MS2)			**Source: 2310008-01**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130			
Chromium [He]	0.098	0.00016	0.00100	"	0.100	0.0003	97.4	70-130			
Lead [He]	0.104	0.00022	0.00100	"	0.100	ND	104	70-130			
Nickel [He]	0.095	0.00035	0.0400	"	0.100	0.0008	94.7	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J02032 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (3J02032-MSD1)			**Source: 2310006-01**								
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100	ND	102	70-130	1.29	20	
Chromium [He]	0.098	0.00016	0.00100	"	0.100	0.0003	97.8	70-130	0.535	20	
Lead [He]	0.104	0.00022	0.00100	"	0.100	ND	104	70-130	0.318	20	
Nickel [He]	0.097	0.00035	0.0400	"	0.100	0.001	96.2	70-130	0.328	20	
Matrix Spike Dup (3J02032-MSD2)			**Source: 2310008-01**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130	0.295	20	
Chromium [He]	0.098	0.00016	0.00100	"	0.100	0.0003	97.5	70-130	0.106	20	
Lead [He]	0.104	0.00022	0.00100	"	0.100	ND	104	70-130	0.324	20	
Nickel [He]	0.096	0.00035	0.0400	"	0.100	0.0008	94.7	70-130	0.0849	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04037 - EPA 3510C DCN 4000 Rev 12											
Blank (3J04037-BLK1)											
Acenaphthene	ND	1.85	10.0	ug/L							
Acenaphthylene	ND	2.20	10.0	"							
Anthracene	ND	2.20	10.0	"							
Benzo (a) anthracene	ND	2.34	10.0	"							
Benzo (b) fluoranthene	ND	2.46	10.0	"							
Benzo (k) fluoranthene	ND	2.91	10.0	"							
Benzo (a) pyrene	ND	2.63	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	3.06	10.0	"							CC-01
Carbazole	ND	3.34	10.0	"							
4-Chloro-3-methylphenol	ND	2.37	10.0	"							
Chrysene	ND	2.26	10.0	"							
Dibenz (a,h) anthracene	ND	1.41	10.0	"							
Dibenzofuran	ND	2.07	10.0	"							
2,4-Dimethylphenol	ND	1.26	10.0	"							
2,4-Dinitrophenol	ND	2.62	10.0	"							CC-01
Di-n-octyl phthalate	ND	3.40	10.0	"							
Fluoranthene	ND	2.01	10.0	"							
Fluorene	ND	2.22	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	2.49	10.0	"							
2-Methylnaphthalene	ND	2.11	10.0	"							
2-Methylphenol	ND	1.78	10.0	"							
3 & 4-Methylphenol	ND	1.73	10.0	"							
Naphthalene	ND	1.95	10.0	"							
Pentachlorophenol	ND	2.98	10.0	"							
Phenanthrene	ND	2.44	10.0	"							
Pyrene	ND	2.93	10.0	"							
2,4,6-Trichlorophenol	ND	1.96	10.0	"							CC-01
Surrogate: 2,4,6-Tribromophenol	*99.2*			"	*100*		*99.2*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*31.6*			"	*50.0*		*63.3*	*17.3-101*			
Surrogate: 2-Fluorophenol	*37.8*			"	*100*		*37.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.3*			"	*50.0*		*60.6*	*10-111*			
Surrogate: Phenol-d5	*24.3*			"	*100*		*24.3*	*10.8-100*			
Surrogate: Terphenyl-dl4	*19.0*			"	*50.0*		*38.1*	*10-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04037 - EPA 3510C DCN 4000 Rev 12											
LCS (3J04037-BS1)											
Acenaphthene	61.2	1.85	10.0	ug/L	100		61.2	28.1-100			
Acenaphthylene	97.9	2.20	10.0	"	100		97.9	30.5-130			
Anthracene	64.9	2.20	10.0	"	100		64.9	34.1-100			
Benzo (a) anthracene	64.1	2.34	10.0	"	100		64.1	34.3-107			
Benzo (b) fluoranthene	58.0	2.46	10.0	"	100		58.0	32.6-101			
Benzo (k) fluoranthene	58.7	2.91	10.0	"	100		58.7	27-104			
Benzo (a) pyrene	60.2	2.63	10.0	"	100		60.2	31.7-100			
Bis(2-ethylhexyl)phthalate	63.1	3.06	10.0	"	100		63.1	10-146			CC-03
Carbazole	194	3.34	10.0	"	100		194	10-147			L1
4-Chloro-3-methylphenol	64.2	2.37	10.0	"	100		64.2	34.8-101			
Chrysene	63.8	2.26	10.0	"	100		63.8	35.2-105			
Dibenz (a,h) anthracene	55.6	1.41	10.0	"	100		55.6	25.9-116			
Dibenzofuran	64.1	2.07	10.0	"	100		64.1	37.3-100			
2,4-Dimethylphenol	56.1	1.26	10.0	"	100		56.1	30.1-100			
2,4-Dinitrophenol	77.6	2.62	10.0	"	100		77.6	11-124			CC-03
Di-n-octyl phthalate	58.7	3.40	10.0	"	100		58.7	10-136			
Fluoranthene	74.7	2.01	10.0	"	100		74.7	22.5-125			
Fluorene	66.4	2.22	10.0	"	100		66.4	31.2-106			
Indeno (1,2,3-cd) pyrene	59.6	2.49	10.0	"	100		59.6	17.7-123			
2-Methylnaphthalene	58.0	2.11	10.0	"	100		58.0	32.5-100			
2-Methylphenol	48.0	1.78	10.0	"	100		48.0	26.5-100			
3 & 4-Methylphenol	82.0	1.73	10.0	"	200		41.0	21.3-100			
Naphthalene	56.5	1.95	10.0	"	100		56.5	10-115			
Pentachlorophenol	67.7	2.98	10.0	"	100		67.7	25.8-110			
Phenanthrene	64.7	2.44	10.0	"	100		64.7	21.2-119			
Pyrene	56.9	2.93	10.0	"	100		56.9	10-129			
2,4,6-Trichlorophenol	68.0	1.96	10.0	"	100		68.0	41.3-100			CC-03
Surrogate: 2,4,6-Tribromophenol	*109*			"	*100*		*109*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*34.1*			"	*50.0*		*68.1*	*17.3-101*			
Surrogate: 2-Fluorophenol	*45.5*			"	*100*		*45.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*38.1*			"	*50.0*		*76.2*	*10-111*			
Surrogate: Phenol-d5	*33.5*			"	*100*		*33.5*	*10.8-100*			
Surrogate: Terphenyl-dl4	*22.0*			"	*50.0*		*44.1*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04037 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3J04037-BSD1)											
Acenaphthene	67.6	1.85	10.0	ug/L	100		67.6	28.1-100	9.94	40	
Acenaphthylene	118	2.20	10.0	"	100		118	30.5-130	19.0	40	CC-03
Anthracene	67.9	2.20	10.0	"	100		67.9	34.1-100	4.61	40	
Benzo (a) anthracene	68.1	2.34	10.0	"	100		68.1	34.3-107	6.17	40	
Benzo (b) fluoranthene	62.1	2.46	10.0	"	100		62.1	32.6-101	6.81	40	
Benzo (k) fluoranthene	66.0	2.91	10.0	"	100		66.0	27-104	11.7	40	
Benzo (a) pyrene	61.5	2.63	10.0	"	100		61.5	31.7-100	2.12	40	
Bis(2-ethylhexyl)phthalate	65.9	3.06	10.0	"	100		65.9	10-146	4.22	40	
Carbazole	187	3.34	10.0	"	100		187	10-147	3.37	40	CC-04, L1
4-Chloro-3-methylphenol	67.5	2.37	10.0	"	100		67.5	34.8-101	4.98	40	
Chrysene	67.0	2.26	10.0	"	100		67.0	35.2-105	4.88	40	
Dibenz (a,h) anthracene	57.7	1.41	10.0	"	100		57.7	25.9-116	3.81	40	
Dibenzofuran	68.2	2.07	10.0	"	100		68.2	37.3-100	6.18	40	
2,4-Dimethylphenol	57.7	1.26	10.0	"	100		57.7	30.1-100	2.74	40	
2,4-Dinitrophenol	75.9	2.62	10.0	"	100		75.9	11-124	2.15	40	
Di-n-octyl phthalate	66.8	3.40	10.0	"	100		66.8	10-136	12.9	40	
Fluoranthene	80.0	2.01	10.0	"	100		80.0	22.5-125	6.82	40	
Fluorene	69.4	2.22	10.0	"	100		69.4	31.2-106	4.44	40	
Indeno (1,2,3-cd) pyrene	62.0	2.49	10.0	"	100		62.0	17.7-123	4.00	40	
2-Methylnaphthalene	63.8	2.11	10.0	"	100		63.8	32.5-100	9.44	40	
2-Methylphenol	50.6	1.78	10.0	"	100		50.6	26.5-100	5.36	40	
3 & 4-Methylphenol	87.4	1.73	10.0	"	200		43.7	21.3-100	6.37	40	
Naphthalene	62.3	1.95	10.0	"	100		62.3	10-115	9.88	40	
Pentachlorophenol	68.9	2.98	10.0	"	100		68.9	25.8-110	1.82	40	
Phenanthrene	69.9	2.44	10.0	"	100		69.9	21.2-119	7.67	40	
Pyrene	61.0	2.93	10.0	"	100		61.0	10-129	6.97	40	CC-03
2,4,6-Trichlorophenol	72.4	1.96	10.0	"	100		72.4	41.3-100	6.31	40	
Surrogate: 2,4,6-Tribromophenol	*105*			"	*100*		*105*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*34.4*			"	*50.0*		*68.8*	*17.3-101*			
Surrogate: 2-Fluorophenol	*46.2*			"	*100*		*46.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*38.7*			"	*50.0*		*77.4*	*10-111*			
Surrogate: Phenol-d5	*33.3*			"	*100*		*33.3*	*10.8-100*			
Surrogate: Terphenyl-dl4	*27.7*			"	*50.0*		*55.3*	*10-102*			*CC-03*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04037 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3J04037-DUP1)			**Source: 2309479-01**								
Acenaphthene	394	19.0	103	ug/L		361			8.78	45	
Acenaphthylene	ND	2.26	10.3	"		ND				45	CC-01
Anthracene	14.6	2.26	10.3	"		15.3			4.26	45	
Benzo (a) anthracene	ND	2.40	10.3	"		ND				45	
Benzo (b) fluoranthene	ND	2.52	10.3	"		ND				45	
Benzo (k) fluoranthene	ND	2.98	10.3	"		ND				45	
Benzo (a) pyrene	ND	2.69	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	3.14	10.3	"		ND				45	
Carbazole	852	34.3	103	"		794			7.06	45	
4-Chloro-3-methylphenol	ND	2.43	10.3	"		ND				45	
Chrysene	ND	2.32	10.3	"		ND				45	
Dibenz (a,h) anthracene	2.53	1.45	10.3	"		1.79			34.4	45	J1
Dibenzofuran	111	2.12	10.3	"		108			2.40	45	
2,4-Dimethylphenol	ND	1.29	10.3	"		ND				45	
2,4-Dinitrophenol	ND	2.69	10.3	"		ND				45	
Di-n-octyl phthalate	ND	3.49	10.3	"		ND				45	
Fluoranthene	17.1	2.06	10.3	"		17.7			3.49	45	
Fluorene	135	2.28	10.3	"		135			0.146	45	
Indeno (1,2,3-cd) pyrene	ND	2.55	10.3	"		ND				45	
2-Methylnaphthalene	15.9	2.16	10.3	"		11.4			33.6	45	
2-Methylphenol	ND	1.83	10.3	"		ND				45	
3 & 4-Methylphenol	ND	1.77	10.3	"		ND				45	
Naphthalene	622	20.0	103	"		453			31.5	45	
Pentachlorophenol	ND	3.06	10.3	"		ND				45	
Phenanthrene	110	2.50	10.3	"		119			7.80	45	
Pyrene	5.15	3.01	10.3	"		5.27			2.40	45	CC-01, J1
2,4,6-Trichlorophenol	ND	2.01	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*108*			"	*103*		*105*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*32.7*			"	*51.3*		*63.8*	*17.3-101*			
Surrogate: 2-Fluorophenol	*34.7*			"	*103*		*33.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*34.2*			"	*51.3*		*66.7*	*10-111*			
Surrogate: Phenol-d5	*26.0*			"	*103*		*25.4*	*10.8-100*			
Surrogate: Terphenyl-dl4	*21.3*			"	*51.3*		*41.5*	*10-102*			*CC-03*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05009 - EPA 5030B											
Blank (3J05009-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*50.2*			"	*50.0*		*100*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*55.6*			"	*50.0*		*111*	*80.6-130*			
Surrogate: Toluene-d8	*46.9*			"	*50.0*		*93.8*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*54.2*			"	*50.0*		*108*	*76.7-123*			
LCS (3J05009-BS1)											
Benzene	18.3	0.258	5.00	ug/L	20.0		91.3	62.8-141			
Ethylbenzene	17.0	0.190	5.00	"	20.0		84.8	66.9-139			
Surrogate: Dibromofluoromethane	*54.0*			"	*50.0*		*108*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*58.6*			"	*50.0*		*117*	*80.6-130*			
Surrogate: Toluene-d8	*47.9*			"	*50.0*		*95.9*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*53.9*			"	*50.0*		*108*	*76.7-123*			
LCS Dup (3J05009-BSD1)											
Benzene	20.5	0.258	5.00	ug/L	20.0		102	62.8-141	11.5	30	
Ethylbenzene	18.6	0.190	5.00	"	20.0		93.2	66.9-139	9.50	30	
Surrogate: Dibromofluoromethane	*54.7*			"	*50.0*		*109*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*56.7*			"	*50.0*		*113*	*80.6-130*			
Surrogate: Toluene-d8	*48.0*			"	*50.0*		*95.9*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*53.9*			"	*50.0*		*108*	*76.7-123*			
Duplicate (3J05009-DUP1)			**Source: 2309458-01**								
Benzene	14.8	0.258	5.00	ug/L		13.3			10.3	35	
Ethylbenzene	52.9	0.190	5.00	"		47.9			9.94	35	
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*54.9*			"	*50.0*		*110*	*80.6-130*			
Surrogate: Toluene-d8	*47.3*			"	*50.0*		*94.7*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*54.0*			"	*50.0*		*108*	*76.7-123*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chloroethylvinyl ether	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02
1,2-Dichloroethene (total)	C01,C02
1,3-Dichloropropene (total)	C01,C02
Xylenes (total)	C01

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzyl alcohol	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Butyl benzyl phthalate	C01,C02
Carbazole	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

4-Chloroaniline	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/09/2023 15:35

Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/09/2023 15:35

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2024*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2024*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project:	Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number:	3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager:	Ethan Allen	10/09/2023 15:35

Analyst Initials Key

FullName	Initials
Alexandria S Windham	ASW
Brett S Fore	BSF
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2309479

Company Name: CAVENHAM FOREST IND
Address: P.O BOX 15369
City: HATTIESBURG State: MS Zip: 39404
Phone: 601-544-3674
Fax: 601-544-0504

Project Manager: ETHAN ALLEN
Purchase Order #:
Email Address : EALLEN@ENV-MGT.COM
Sampler Name Printed: JEFF GONSOULIN
Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 3RD QTR 2023
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH, COND	CHLORIDE	NITRATE	METALS	AMMONIA	BNA	VOA
Preservative:											
RC-2A	9-28-23/12:15	W	7	G	X	X	X	X	X	X	X
RC-3A	9-28-23/12:35	W	7	G	X	X	X	X	X	X	X
TBV#7224	9/28/23 12:15	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: Y / N Thermometer# 5 Cooler # NEW Receipt Temp Corrected(°C) 0.4°C
Date & Time _____ By: ST Sample____ Blank X Cooler____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	9-29-23	8:00
Received by	Sarah Tomek	Sarah Tomek	MM	9/29/23	0800
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

DCN F316 Rev.6
MicroMethods Laboratory
Issued/Revised 6/15/22

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

October 19, 2023

Ethan Allen

Work Order # : 2310035

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 10/03/2023 08:32. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-3A	2310035-01	Water	10/02/2023 11:00	*Jeff Gonsoulin*	10/03/2023 08:32
Mobile/RW-2	2310035-02	Water	10/02/2023 11:45	*Jeff Gonsoulin*	10/03/2023 08:32
Mobile/RW-1	2310035-03	Water	10/02/2023 12:30	*Jeff Gonsoulin*	10/03/2023 08:32
Trip Blank TBV#7222	2310035-04	Water	10/02/2023 11:00	*Micro Methods*	10/03/2023 08:32

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Sample Receipt Conditions

Date/Time Received: 10/3/2023 8:32:00AM
Received by: Teresa Meins
Date/Time Logged: 10/3/2023 8:44:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Teresa Meins
Receipt Temperature: -0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Cooler ID: Client cooler 2

Receipt Temperature: -0.7 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:36

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:36

Total Metals-EPA 200.8 Rev 5.4

Qualifiers:

C Confirmed by reanalysis or alternate method.

Chromium [He], Lead [He], Nickel [He]
2310035-01[Mobile/RW-3A]

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

B-01 Target found in blank; laboratory contamination.

2-Methylnaphthalene, Phenanthrene
3J09038-BLK1

B-10 The analyte value in the BLK or CCB is >=1/2xMRL but <MRL.

Acenaphthene, Fluoranthene, Fluorene
3J09038-BLK1

CC-01 CCV outside acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4,6-Tribromophenol, 2-Fluorophenol
2310035-01[Mobile/RW-3A], 3J09039-DUP1

CC-03 CCV outside acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, 2-Fluorophenol
2310035-02[Mobile/RW-2], 2310035-03[Mobile/RW-1], 3J09039-BLK1, 3J09039-BS1, 3J09039-BSD1

DL-6 Dilution required. Lowest achievable MRL due to matrix interterence.

2,4,6-Trichlorophenol, 2,4-Dimethylphenol, 2,4-Dinitrophenol, 2-Methylphenol, 3 & 4-Methylphenol, 4-Chloro-3-methylphenol, Bis(2-ethylhexyl)phthalate, Dibenz (a,h) anthracene, Di-n-octyl phthalate, Pentachlorophenol
2310035-01[Mobile/RW-3A], 3J09039-DUP1

L1 LCS and/or LCSD Recovery Limit exceeded.

Phenanthrene
3J09038-BS1, 3J09038-BSD1

L2 LCS and/or LCSD Recovery below acceptance limit.

1-Methylnaphthalene, 2,4-Dimethylphenol, 2-Methylnaphthalene, 2-Methylphenol, 4-Chloro-3-methylphenol, Acenaphthene, Acenaphthylene, Dibenzofuran, Fluorene, Naphthalene

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:36

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

3J09039-BS1

L3 LCS/LCSD Precision Limit exceeded.

1-Methylnaphthalene, 2,4,6-Trichlorophenol, 2,4-Dimethylphenol, 2-Methylnaphthalene, 2-Methylphenol, 3 & 4-Methylphenol, Acenaphthene, Acenaphthylene, Dibenzofuran, Fluorene, Naphthalene, Phenanthrene

3J09039-BSD1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

2,4-Dimethylphenol, 2-Methylnaphthalene, 3 & 4-Methylphenol, Dibenz (a,h) anthracene, Naphthalene

3J09039-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2,4,6-Tribromophenol, 2-Fluorobiphenyl, 2-Fluorophenol, Nitrobenzene-d5, Phenol-d5, Terphenyl-dl4

2310035-01[Mobile/RW-3A], 3J09039-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2310035-01[Mobile/RW-3A], 2310035-02[Mobile/RW-2], 2310035-03[Mobile/RW-1], 3J03057-DUP1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Mobile/RW-3A

2310035-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**9.54**	0.04	0.21	mg/L	1.0	3J04055	ASW	10/04/2023 10:00	10/04/2023 12:48	Lachat 10-107-06-1-I	
Chloride	**46.0**	0.66	2.00	"	"	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**8.31**			pH Units	"	3J03057	JBM	10/03/2023 15:29	10/03/2023 15:30	SM 4500-H+B-2011	
Nitrate as N	**0.885**	0.097	0.500	mg/L	"	3J03058	DLW	10/03/2023 14:10	10/03/2023 15:46	HACH 10206	
Specific Conductance (EC)	**994**			umhos/cm @25.0 C	"	3J04034	JBM	10/04/2023 09:22	10/04/2023 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00445**	0.00078	0.00200	mg/L	1.0	3J06004	GWG	10/06/2023 08:30	10/06/2023 12:38	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00162**	0.00016	0.00100	"	"	"	GWG	"	"	"	C
Lead [He]	**0.0371**	0.00022	0.00100	"	"	"	GWG	"	"	"	C
Nickel [He]	**0.0400**	0.00035	0.0400	"	"	"	GWG	"	"	"	C
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**7010**	89.3	1100	ug/L	1000.0	3J09039	CRLV	10/09/2023 09:57	10/11/2023 05:58	EPA 8270D	
Acenaphthylene	**28.6**	0.91	11.8	"	10.0	"	CRLV	"	10/12/2023 14:18	"	
Anthracene	**3340**	101	1310	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	
Benzo (a) anthracene	**3910**	87.3	934	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**1920**	14.3	145	"	100.0	"	CRLV	"	10/12/2023 12:35	"	
Benzo (k) fluoranthene	**636**	12.2	86.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**1140**	12.3	127	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.64	11.0	"	10.0	"	CRLV	"	10/12/2023 14:18	"	DL-6
Carbazole	**787**	266	508	"	100.0	"	CRLV	"	10/12/2023 12:35	"	
4-Chloro-3-methylphenol	ND	5.57	16.8	"	10.0	"	CRLV	"	10/12/2023 14:18	"	DL-6
Chrysene	**3820**	79.2	904	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	
Dibenz (a,h) anthracene	**74.4**	1.89	18.1	"	10.0	"	CRLV	"	10/12/2023 14:18	"	
Dibenzofuran	**4640**	405	1220	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	
2,4-Dimethylphenol	**144**	3.54	10.7	"	10.0	"	CRLV	"	10/12/2023 14:18	"	
2,4-Dinitrophenol	ND	14.6	43.9	"	"	"	CRLV	"	"	"	DL-6
Di-n-octyl phthalate	ND	5.77	17.3	"	"	"	CRLV	"	"	"	DL-6
Fluoranthene	**12100**	26.1	1520	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	
Fluorene	**6940**	109	1210	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**318**	14.8	165	"	100.0	"	CRLV	"	10/12/2023 12:35	"	
2-Methylnaphthalene	**4290**	50.8	1300	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	
2-Methylphenol	ND	4.19	12.6	"	10.0	"	CRLV	"	10/12/2023 14:18	"	DL-6

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Mobile/RW-3A

2310035-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
3 & 4-Methylphenol	**66.3**	11.5	34.4	"	10.0	3J09039	CRLV	10/09/2023 09:57	"	"	
Naphthalene	**10900**	85.3	1010	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	
Pentachlorophenol	ND	10.2	10.2	"	10.0	"	CRLV	"	10/12/2023 14:18	"	DL-6
Phenanthrene	**16700**	92.4	1220	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	
Pyrene	**7840**	160	589	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	4.47	13.4	"	10.0	"	CRLV	"	10/12/2023 14:18	"	DL-6
1-Methylnaphthalene	**2590**	50.8	1300	"	1000.0	"	CRLV	"	10/11/2023 05:58	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	0.00	*%*	*10-124*	"	CRLV	"	*10/12/2023 14:18*	"	*CC-01, SR01*
2-Fluorobiphenyl	0.00	*%*	*16.3-100*	"	CRLV	"	"	"	*SR01*
2-Fluorophenol	0.00	*%*	*10-100*	"	CRLV	"	"	"	*CC-01, SR01*
Nitrobenzene-d5	0.00	*%*	*10-108*	"	CRLV	"	"	"	*SR01*
Phenol-d5	0.00	*%*	*10-100*	"	CRLV	"	"	"	*SR01*
Terphenyl-dl4	0.00	*%*	*10-100*	"	CRLV	"	"	"	*SR01*

Volatile Organic Compounds by EPA Method 8260D											
Benzene	**7.88**	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 16:13	EPA 8260D	
Ethylbenzene	**15.2**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	51.5	*103 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.4	*88.7 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	55.1	*110 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.9	*93.8 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Mobile/RW-2

2310035-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.59**	0.04	0.21	mg/L	1.0	3J04056	ASW	10/04/2023 10:00	10/04/2023 13:28	Lachat 10-107-06-1-I	
Chloride	**38.2**	0.66	2.00	"	"	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**6.00**			pH Units	"	3J03057	JBM	10/03/2023 15:29	10/03/2023 15:30	SM 4500-H+B-2011	
Nitrate as N	ND	0.097	0.500	mg/L	"	3J03058	DLW	10/03/2023 14:10	10/03/2023 15:46	HACH 10206	
Specific Conductance (EC)	**332**			umhos/cm @25.0 C	"	3J04034	JBM	10/04/2023 09:22	10/04/2023 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00235**	0.00078	0.00200	mg/L	1.0	3J06004	GWG	10/06/2023 08:30	10/06/2023 12:42	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00124**	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Mobile/RW-2

2310035-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**421**	9.07	111	ug/L	100.0	3J09039	CRLV	10/09/2023 09:57	10/11/2023 05:22	EPA 8270D	
Acenaphthylene	**3.57**	0.09	1.20	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
Anthracene	**151**	10.2	133	"	100.0	"	CRLV	"	10/11/2023 05:22	"	
Benzo (a) anthracene	**48.6**	0.89	9.48	"	10.0	"	CRLV	"	10/11/2023 08:18	"	
Benzo (b) fluoranthene	**24.1**	1.45	14.7	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**9.25**	0.12	0.88	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
Benzo (a) pyrene	**14.1**	0.12	1.29	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	"	"	"	CRLV	"	"	"	
Carbazole	**64.1**	27.0	51.5	"	10.0	"	CRLV	"	10/11/2023 08:18	"	
4-Chloro-3-methylphenol	ND	0.57	1.70	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
Chrysene	**40.9**	0.80	9.18	"	10.0	"	CRLV	"	10/11/2023 08:18	"	
Dibenz (a,h) anthracene	ND	0.19	1.84	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
Dibenzofuran	**306**	41.1	124	"	100.0	"	CRLV	"	10/11/2023 05:22	"	
2,4-Dimethylphenol	**3.43**	0.36	1.08	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
2,4-Dinitrophenol	ND	1.48	4.45	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.59	1.75	"	"	"	CRLV	"	"	"	
Fluoranthene	**491**	2.65	155	"	100.0	"	CRLV	"	10/11/2023 05:22	"	
Fluorene	**382**	11.0	123	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**2.42**	0.15	1.68	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
2-Methylnaphthalene	**62.7**	0.52	13.2	"	10.0	"	CRLV	"	10/11/2023 08:18	"	
2-Methylphenol	ND	0.43	1.28	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
3 & 4-Methylphenol	ND	1.16	3.49	"	"	"	CRLV	"	"	"	
Naphthalene	**253**	8.66	102	"	100.0	"	CRLV	"	10/11/2023 05:22	"	
Pentachlorophenol	ND	1.03	1.03	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
Phenanthrene	**799**	9.38	124	"	100.0	"	CRLV	"	10/11/2023 05:22	"	
Pyrene	**270**	16.3	59.8	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	1.0	"	CRLV	"	10/12/2023 14:52	"	
1-Methylnaphthalene	**153**	5.15	132	"	100.0	"	CRLV	"	10/11/2023 05:22	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Mobile/RW-2

2310035-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Surrogate	***Result***	***% Rec***		***Rec Limits***		***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	9.02	*87.5 %*		*10-124*		*3J09039*	CRLV	*10/09/2023 09:57*	*10/11/2023 08:18*	"	*CC-03*
2-Fluorobiphenyl	3.20	*62.0 %*		*16.3-100*		"	CRLV	"	"	"	
2-Fluorophenol	3.14	*30.5 %*		*10-100*		"	CRLV	"	*10/12/2023 14:52*	"	*CC-03*
Nitrobenzene-d5	1.65	*32.0 %*		*10-108*		"	CRLV	"	*10/11/2023 08:18*	"	
Phenol-d5	2.02	*19.6 %*		*10-100*		"	CRLV	"	*10/12/2023 14:52*	"	
Terphenyl-dl4	2.68	*52.0 %*		*10-100*		"	CRLV	"	*10/11/2023 08:18*	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 16:37	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***		***Rec Limits***		***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	51.7	*103 %*		*73.6-118*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.9	*91.7 %*		*80.6-115*		"	BSF	"	"	"	
Toluene-d8	53.6	*107 %*		*70.8-125*		"	BSF	"	"	"	
4-Bromofluorobenzene	46.9	*93.8 %*		*76.7-123*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Mobile/RW-1

2310035-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Acenaphthylene	ND	0.01	0.06	ug/L	1.0	3J09038	CRLV	10/09/2023 09:48	10/16/2023 23:04	EPA 8270D	
Phenanthrene	**0.99**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	**0.36**	0.02	0.06	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.19**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.27**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.25**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.09**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.10**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0722	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.124	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.186	*90.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**7.37**	0.04	0.21	mg/L	1.0	3J04056	ASW	10/04/2023 10:00	10/04/2023 13:33	Lachat 10-107-06-1-I	
Chloride	**224**	3.30	10.0	"	5.0	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**6.45**			pH Units	1.0	3J03057	JBM	10/03/2023 15:29	10/03/2023 15:30	SM 4500-H+B-2011	
Specific Conductance (EC)	**1170**			umhos/cm @25.0 C	"	3J04034	JBM	10/04/2023 09:22	10/04/2023 09:25	SM 2510 B-2011	
Nitrate as N	ND	0.097	0.500	mg/L	"	3J03058	DLW	10/03/2023 14:10	10/03/2023 15:46	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J06004	GWG	10/06/2023 08:30	10/06/2023 12:55	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.0134**	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Mobile/RW-1

2310035-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**8.23**	0.09	1.13	ug/L	1.0	3J09039	CRLV	10/09/2023 09:57	10/11/2023 03:03	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.13	"	"	"	CRLV	"	"	"	
Carbazole	ND	2.73	5.21	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.57	1.72	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.42	1.25	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.09	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.50	4.50	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.59	1.77	"	"	"	CRLV	"	"	"	
Fluoranthene	**1.84**	0.03	1.56	"	"	"	CRLV	"	"	"	
Fluorene	**4.14**	0.11	1.24	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**1.53**	0.05	1.33	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.29	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.18	3.53	"	"	"	CRLV	"	"	"	
Naphthalene	**1.44**	0.09	1.03	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.04	1.04	"	"	"	CRLV	"	"	"	
Pyrene	**1.19**	0.16	0.60	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.38	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	**1.39**	0.05	1.33	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.57	*63.1 %*	*10-124*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	2.05	*39.4 %*	*16.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	1.76	*16.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.17	*41.6 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	1.27	*12.2 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	1.43	*27.4 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 17:01	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.5	*101 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.7	*93.4 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	53.7	*107 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.4	*94.9 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Trip Blank TBV#7222

2310035-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 17:24	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.4	*94.9 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	40.6	*81.1 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	55.3	*111 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	45.2	*90.4 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09038 - EPA 3510C DCN 4000 Rev 12											
Blank (3J09038-BLK1)											
Naphthalene	ND	0.02	0.15	ug/L							
2-Methylnaphthalene	0.06	0.05	0.05	"							B-01
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							B-10
Fluorene	ND	0.02	0.12	"							B-10
Phenanthrene	0.26	0.02	0.06	"							B-01
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							B-10
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*17.3-101*			
Surrogate: Nitrobenzene-d5	*0.0600*			"	*0.200*		*30.0*	*19.6-111*			
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09038 - EPA 3510C DCN 4000 Rev 12											
LCS (3J09038-BS1)											
Naphthalene	0.13	0.02	0.15	ug/L	0.200		65.0	10-115			
2-Methylnaphthalene	0.18	0.05	0.05	"	0.200		90.0	32.5-100			
Acenaphthylene	0.16	0.01	0.06	"	0.200		80.0	30.5-105			
Acenaphthene	0.19	0.02	0.05	"	0.200		95.0	28.1-100			
Fluorene	0.20	0.02	0.12	"	0.200		100	31.2-106			
Phenanthrene	0.34	0.02	0.06	"	0.200		170	21.2-119			L1
Anthracene	0.17	0.02	0.06	"	0.200		85.0	34.1-100			
Fluoranthene	0.20	0.03	0.06	"	0.200		100	22.5-125			
Pyrene	0.15	0.02	0.05	"	0.200		75.0	10-129			
Benzo (a) anthracene	0.18	0.02	0.06	"	0.200		90.0	34.3-107			
Chrysene	0.16	0.03	0.05	"	0.200		80.0	35.2-105			
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	32.6-101			
Benzo (k) fluoranthene	0.18	0.02	0.05	"	0.200		90.0	27-104			
Benzo (a) pyrene	0.15	0.02	0.06	"	0.200		75.0	31.7-100			
Indeno (1,2,3-cd) pyrene	0.14	0.02	0.17	"	0.200		70.0	17.7-123			
Dibenz (a,h) anthracene	0.16	0.04	0.16	"	0.200		80.0	25.9-116			
Surrogate: 2-Fluorobiphenyl	*0.150*			"	*0.200*		*75.0*	*17.3-101*			
Surrogate: Nitrobenzene-d5	*0.0500*			"	*0.200*		*25.0*	*19.6-111*			
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09038 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3J09038-BSD1)											
Naphthalene	0.13	0.02	0.15	ug/L	0.200		65.0	10-115	0.00	40	
2-Methylnaphthalene	0.19	0.05	0.05	"	0.200		95.0	32.5-100	5.41	40	
Acenaphthylene	0.16	0.01	0.06	"	0.200		80.0	30.5-105	0.00	40	
Acenaphthene	0.20	0.02	0.05	"	0.200		100	28.1-100	5.13	40	
Fluorene	0.20	0.02	0.12	"	0.200		100	31.2-106	0.00	40	
Phenanthrene	0.41	0.02	0.06	"	0.200		205	21.2-119	18.7	40	L1
Anthracene	0.19	0.02	0.06	"	0.200		95.0	34.1-100	11.1	40	
Fluoranthene	0.21	0.03	0.06	"	0.200		105	22.5-125	4.88	40	
Pyrene	0.16	0.02	0.05	"	0.200		80.0	10-129	6.45	40	
Benzo (a) anthracene	0.18	0.02	0.06	"	0.200		90.0	34.3-107	0.00	40	
Chrysene	0.16	0.03	0.05	"	0.200		80.0	35.2-105	0.00	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	32.6-101	0.00	40	
Benzo (k) fluoranthene	0.18	0.02	0.05	"	0.200		90.0	27-104	0.00	40	
Benzo (a) pyrene	0.15	0.02	0.06	"	0.200		75.0	31.7-100	0.00	40	
Indeno (1,2,3-cd) pyrene	0.15	0.02	0.17	"	0.200		75.0	17.7-123	6.90	40	
Dibenz (a,h) anthracene	0.16	0.04	0.16	"	0.200		80.0	25.9-116	0.00	40	
Surrogate: 2-Fluorobiphenyl	*0.160*			"	*0.200*		*80.0*	*17.3-101*			
Surrogate: Nitrobenzene-d5	*0.0700*			"	*0.200*		*35.0*	*19.6-111*			
Surrogate: Terphenyl-dl4	*0.180*			"	*0.200*		*90.0*	*11.3-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J03057 - Default Prep GenChem											
Duplicate (3J03057-DUP1)			**Source: 2310035-01**								**HT-02**
pH	8.34			pH Units		8.31			0.360	5	
Batch 3J03058 - Default Prep GenChem											
Blank (3J03058-BLK1)											
Nitrate as N	ND	0.097	0.500	mg/L							
LCS (3J03058-BS1)											
Nitrate as N	9.99	0.097	0.500	mg/L	10.0		99.9	90-110			
LCS Dup (3J03058-BSD1)											
Nitrate as N	10.0	0.097	0.500	mg/L	10.0		100	90-110	0.100	20	
Duplicate (3J03058-DUP1)			**Source: 2310022-01**								
Nitrate as N	32.9	0.388	2.00	mg/L		33.0			0.121	20	
Matrix Spike (3J03058-MS1)			**Source: 2310022-01**								
Nitrate as N	12.0			mg/L	4.00	8.24	94.0	90-110			
Matrix Spike Dup (3J03058-MSD1)			**Source: 2310022-01**								
Nitrate as N	12.0			mg/L	4.00	8.24	94.0	90-110	0.00	20	
Batch 3J04034 - Default Prep GenChem											
LCS (3J04034-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90.1-113			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04034 - Default Prep GenChem											
LCS (3J04034-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3J04034-DUP1)			**Source: 2310035-03**								
Specific Conductance (EC)	1170			umhos/cm @25.0 C		1170			0.171	20	
Batch 3J04055 - Default Prep GenChem											
Blank (3J04055-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3J04055-BS1)											
Ammonia as N	5.11	0.04	0.21	mg/L	5.00		102	90-110			
LCS Dup (3J04055-BSD1)											
Ammonia as N	5.07	0.04	0.21	mg/L	5.00		101	90-110	0.786	10	
Duplicate (3J04055-DUP1)			**Source: 2309464-01**								
Ammonia as N	4.35	0.04	0.21	mg/L		4.41			1.37	10	
Matrix Spike (3J04055-MS1)			**Source: 2310004-01**								
Ammonia as N	5.12	0.04	0.21	mg/L	5.00	0.11	100	90-110			
Matrix Spike Dup (3J04055-MSD1)			**Source: 2310004-01**								
Ammonia as N	5.04	0.04	0.21	mg/L	5.00	0.11	98.7	90-110	1.57	10	
Batch 3J04056 - Default Prep GenChem											
Blank (3J04056-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04056 - Default Prep GenChem											
LCS (3J04056-BS1)											
Ammonia as N	5.00	0.04	0.21	mg/L	5.00		100	90-110			
LCS Dup (3J04056-BSD1)											
Ammonia as N	5.00	0.04	0.21	mg/L	5.00		100	90-110	0.00	10	
Duplicate (3J04056-DUP1)			**Source: 2310035-03**								
Ammonia as N	7.51	0.04	0.21	mg/L		7.37			1.88	10	
Matrix Spike (3J04056-MS1)			**Source: 2310041-01**								
Ammonia as N	5.12	0.04	0.21	mg/L	5.00	0.20	98.5	90-110			
Matrix Spike Dup (3J04056-MSD1)			**Source: 2310041-01**								
Ammonia as N	5.12	0.04	0.21	mg/L	5.00	0.20	98.5	90-110	0.00	10	
Batch 3J05024 - Default Prep GenChem											
Blank (3J05024-BLK1)											
Chloride	ND	0.66	2.00	mg/L							
LCS (3J05024-BS1)											
Chloride	25.1	0.66	2.00	mg/L	25.0		100	85-115			
LCS Dup (3J05024-BSD1)											
Chloride	25.0	0.66	2.00	mg/L	25.0		100	85-115	0.399	30	
Duplicate (3J05024-DUP1)			**Source: 2310060-01**								
Chloride	3.54	0.66	2.00	mg/L		3.48			1.71	20	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05024 - Default Prep GenChem											
Matrix Spike (3J05024-MS1)			**Source: 2310060-01**								
Chloride	22.4	0.66	2.00	mg/L	20.0	3.48	94.6	70-130			
Matrix Spike Dup (3J05024-MSD1)			**Source: 2310060-01**								
Chloride	22.8	0.66	2.00	mg/L	20.0	3.48	96.6	70-130	1.77	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J06004 - EPA 200.2 DCN 1017 Rev 10											
Blank (3J06004-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3J06004-BS1)											
Arsenic [He]	0.105	0.00078	0.00200	mg/L	0.100		105	85-115			
Chromium [He]	0.106	0.00016	0.00100	"	0.100		106	85-115			
Lead [He]	0.105	0.00022	0.00100	"	0.100		105	85-115			
Nickel [He]	0.107	0.00035	0.0400	"	0.100		107	85-115			
LCS Dup (3J06004-BSD1)											
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100		104	85-115	0.601	20	
Chromium [He]	0.107	0.00016	0.00100	"	0.100		107	85-115	0.329	20	
Lead [He]	0.105	0.00022	0.00100	"	0.100		105	85-115	0.231	20	
Nickel [He]	0.106	0.00035	0.0400	"	0.100		106	85-115	0.434	20	
Matrix Spike (3J06004-MS1)			**Source: 2310057-01**								
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100	ND	104	70-130			
Chromium [He]	0.106	0.00016	0.00100	"	0.100	ND	106	70-130			
Lead [He]	0.105	0.00022	0.00100	"	0.100	ND	105	70-130			
Nickel [He]	0.108	0.00035	0.0400	"	0.100	0.003	105	70-130			
Matrix Spike (3J06004-MS2)			**Source: 2310057-04**								
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100	ND	104	70-130			
Chromium [He]	0.107	0.00016	0.00100	"	0.100	ND	107	70-130			
Lead [He]	0.105	0.00022	0.00100	"	0.100	ND	105	70-130			
Nickel [He]	0.106	0.00035	0.0400	"	0.100	ND	106	70-130			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J06004 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (3J06004-MSD1)			**Source: 2310057-01**								
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100	ND	103	70-130	0.187	20	
Chromium [He]	0.106	0.00016	0.00100	"	0.100	ND	106	70-130	0.459	20	
Lead [He]	0.104	0.00022	0.00100	"	0.100	ND	104	70-130	0.381	20	
Nickel [He]	0.108	0.00035	0.0400	"	0.100	0.003	105	70-130	0.211	20	
Matrix Spike Dup (3J06004-MSD2)			**Source: 2310057-04**								
Arsenic [He]	0.098	0.00078	0.00200	mg/L	0.100	ND	98.4	70-130	5.10	20	
Chromium [He]	0.101	0.00016	0.00100	"	0.100	ND	101	70-130	5.86	20	
Lead [He]	0.099	0.00022	0.00100	"	0.100	ND	98.9	70-130	6.12	20	
Nickel [He]	0.100	0.00035	0.0400	"	0.100	ND	100	70-130	5.79	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
Blank (3J09039-BLK1)											
Acenaphthene	ND	0.09	1.08	ug/L							
Acenaphthylene	ND	0.09	1.16	"							
Anthracene	ND	0.10	1.29	"							
Benzo (a) anthracene	ND	0.09	0.92	"							
Benzo (b) fluoranthene	ND	0.14	1.43	"							
Benzo (k) fluoranthene	ND	0.12	0.85	"							
Benzo (a) pyrene	ND	0.12	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.36	1.08	"							
Carbazole	ND	2.62	5.00	"							
4-Chloro-3-methylphenol	ND	0.55	1.65	"							
Chrysene	ND	0.08	0.89	"							
Dibenz (a,h) anthracene	ND	0.19	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.35	1.05	"							
2,4-Dinitrophenol	ND	1.44	4.32	"							
Di-n-octyl phthalate	ND	0.57	1.70	"							
Fluoranthene	ND	0.03	1.50	"							
Fluorene	ND	0.11	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.15	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.08	0.99	"							
Pentachlorophenol	ND	1.03	3.09	"							
Phenanthrene	ND	0.09	1.20	"							
Pyrene	ND	0.16	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*6.14*			"	*10.0*		*61.4*	*10-124*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*1.75*			"	*5.00*		*35.0*	*16.3-100*			
Surrogate: 2-Fluorophenol	*1.37*			"	*10.0*		*13.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.63*			"	*5.00*		*32.6*	*10-108*			
Surrogate: Phenol-d5	*1.08*			"	*10.0*		*10.8*	*10-100*			
Surrogate: Terphenyl-dl4	*2.21*			"	*5.00*		*44.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
LCS (3J09039-BS1)											
Acenaphthene	3.21	0.09	1.08	ug/L	10.0		32.1	40.4-100			L2
Acenaphthylene	3.31	0.09	1.16	"	10.0		33.1	38-100			L2
Anthracene	5.10	0.10	1.29	"	10.0		51.0	36.9-100			
Benzo (a) anthracene	6.37	0.09	0.92	"	10.0		63.7	37.6-100			
Benzo (b) fluoranthene	6.23	0.14	1.43	"	10.0		62.3	20.1-117			
Benzo (k) fluoranthene	6.52	0.12	0.85	"	10.0		65.2	26.8-106			
Benzo (a) pyrene	6.50	0.12	1.25	"	10.0		65.0	20.6-105			
Bis(2-ethylhexyl)phthalate	6.44	0.36	1.08	"	10.0		64.4	46.2-161			
Carbazole	6.28	2.62	5.00	"	10.0		62.8	41.1-107			
4-Chloro-3-methylphenol	3.97	0.55	1.65	"	10.0		39.7	40-104			L2
Chrysene	6.71	0.08	0.89	"	10.0		67.1	35.4-100			
Dibenz (a,h) anthracene	7.01	0.19	1.78	"	10.0		70.1	12.8-116			
Dibenzofuran	3.45	0.40	1.20	"	10.0		34.5	46.3-100			L2
2,4-Dimethylphenol	2.53	0.35	1.05	"	10.0		25.3	37.6-103			L2
2,4-Dinitrophenol	5.93	1.44	4.32	"	10.0		59.3	10-132			
Di-n-octyl phthalate	5.76	0.57	1.70	"	10.0		57.6	33.7-167			
Fluoranthene	6.27	0.03	1.50	"	10.0		62.7	42.3-100			
Fluorene	3.80	0.11	1.19	"	10.0		38.0	45.2-100			L2
Indeno (1,2,3-cd) pyrene	6.20	0.15	1.63	"	10.0		62.0	11.5-117			
2-Methylnaphthalene	2.94	0.05	1.28	"	10.0		29.4	32.8-100			L2
2-Methylphenol	2.51	0.41	1.24	"	10.0		25.1	29.7-100			L2
3 & 4-Methylphenol	4.64	1.13	3.39	"	20.0		23.2	17.5-108			
Naphthalene	2.93	0.08	0.99	"	10.0		29.3	35.5-100			L2
Pentachlorophenol	6.44	1.03	3.09	"	10.0		64.4	10-137			
Phenanthrene	5.05	0.09	1.20	"	10.0		50.5	40.8-100			
Pyrene	5.63	0.16	0.58	"	10.0		56.3	42.1-104			
2,4,6-Trichlorophenol	4.31	0.44	1.32	"	10.0		43.1	37-130			
1-Methylnaphthalene	2.58	0.05	1.28	"	10.0		25.8	35.3-100			L2
Surrogate: 2,4,6-Tribromophenol	*7.17*			"	*10.0*		*71.7*	*10-124*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*1.93*			"	*5.00*		*38.6*	*16.3-100*			
Surrogate: 2-Fluorophenol	*1.61*			"	*10.0*		*16.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.89*			"	*5.00*		*37.8*	*10-108*			
Surrogate: Phenol-d5	*1.19*			"	*10.0*		*11.9*	*10-100*			
Surrogate: Terphenyl-dl4	*2.34*			"	*5.00*		*46.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3J09039-BSD1)											
Acenaphthene	7.84	0.09	1.08	ug/L	10.0		78.4	40.4-100	83.8	48	L3
Acenaphthylene	7.76	0.09	1.16	"	10.0		77.6	38-100	80.4	74	L3
Anthracene	8.56	0.10	1.29	"	10.0		85.6	36.9-100	50.7	66	
Benzo (a) anthracene	9.38	0.09	0.92	"	10.0		93.8	37.6-100	38.2	53	
Benzo (b) fluoranthene	8.86	0.14	1.43	"	10.0		88.6	20.1-117	34.9	71	
Benzo (k) fluoranthene	9.08	0.12	0.85	"	10.0		90.8	26.8-106	32.8	63	
Benzo (a) pyrene	9.17	0.12	1.25	"	10.0		91.7	20.6-105	34.1	72	
Bis(2-ethylhexyl)phthalate	9.55	0.36	1.08	"	10.0		95.5	46.2-161	38.9	82	
Carbazole	8.37	2.62	5.00	"	10.0		83.7	41.1-107	28.5	40	
4-Chloro-3-methylphenol	8.22	0.55	1.65	"	10.0		82.2	40-104	69.7	73	
Chrysene	9.47	0.08	0.89	"	10.0		94.7	35.4-100	34.1	87	
Dibenz (a,h) anthracene	10.3	0.19	1.78	"	10.0		103	12.8-116	38.3	126	
Dibenzofuran	7.99	0.40	1.20	"	10.0		79.9	46.3-100	79.4	40	L3
2,4-Dimethylphenol	10.2	0.35	1.05	"	10.0		102	37.6-103	121	58	L3
2,4-Dinitrophenol	6.06	1.44	4.32	"	10.0		60.6	10-132	2.17	132	
Di-n-octyl phthalate	8.53	0.57	1.70	"	10.0		85.3	33.7-167	38.8	69	
Fluoranthene	8.56	0.03	1.50	"	10.0		85.6	42.3-100	30.9	66	
Fluorene	8.37	0.11	1.19	"	10.0		83.7	45.2-100	75.1	38	L3
Indeno (1,2,3-cd) pyrene	8.96	0.15	1.63	"	10.0		89.6	11.5-117	36.4	99	
2-Methylnaphthalene	7.34	0.05	1.28	"	10.0		73.4	32.8-100	85.6	40	L3
2-Methylphenol	6.06	0.41	1.24	"	10.0		60.6	29.7-100	82.8	40	L3
3 & 4-Methylphenol	12.5	1.13	3.39	"	20.0		62.6	17.5-108	91.8	40	L3
Naphthalene	7.03	0.08	0.99	"	10.0		70.3	35.5-100	82.3	65	L3
Pentachlorophenol	11.8	1.03	3.09	"	10.0		118	10-137	58.5	86	
Phenanthrene	8.74	0.09	1.20	"	10.0		87.4	40.8-100	53.5	39	L3
Pyrene	8.83	0.16	0.58	"	10.0		88.3	42.1-104	44.3	49	
2,4,6-Trichlorophenol	10.2	0.44	1.32	"	10.0		102	37-130	80.9	58	L3
1-Methylnaphthalene	6.32	0.05	1.28	"	10.0		63.2	35.3-100	84.0	40	L3
Surrogate: 2,4,6-Tribromophenol	*10.2*			"	*10.0*		*102*	*10-124*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*3.14*			"	*5.00*		*62.8*	*16.3-100*			
Surrogate: 2-Fluorophenol	*3.38*			"	*10.0*		*33.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.17*			"	*5.00*		*63.4*	*10-108*			
Surrogate: Phenol-d5	*2.32*			"	*10.0*		*23.2*	*10-100*			
Surrogate: Terphenyl-dl4	*2.73*			"	*5.00*		*54.6*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3J09039-DUP1)			**Source: 2310035-01**								
Acenaphthene	6040	114	1390	ug/L		7010			14.8	45	
Acenaphthylene	25.7	1.16	15.0	"		28.6			10.9	45	
Anthracene	2790	128	1660	"		3340			18.1	45	
Benzo (a) anthracene	2950	111	1190	"		3910			27.8	45	
Benzo (b) fluoranthene	1680	18.2	185	"		1920			13.0	45	
Benzo (k) fluoranthene	604	15.5	110	"		636			5.11	45	
Benzo (a) pyrene	955	15.6	161	"		1140			17.5	45	
Bis(2-ethylhexyl)phthalate	ND	4.63	13.9	"		ND				45	DL-6
Carbazole	879	338	645	"		787			11.0	45	
4-Chloro-3-methylphenol	ND	7.08	21.3	"		ND				45	DL-6
Chrysene	3080	101	1150	"		3820			21.3	45	
Dibenz (a,h) anthracene	42.6	24.0	230	"		74.4			54.4	45	DL-6, P3
Dibenzofuran	4010	515	1550	"		4640			14.5	45	
2,4-Dimethylphenol	9.68	4.50	13.5	"		144			175	45	DL-6, P3
2,4-Dinitrophenol	ND	18.6	55.7	"		ND				45	DL-6
Di-n-octyl phthalate	ND	73.3	219	"		ND				45	DL-6
Fluoranthene	10800	33.2	1940	"		12100			11.2	45	
Fluorene	6310	138	1540	"		6940			9.57	45	
Indeno (1,2,3-cd) pyrene	225	18.8	210	"		318			34.4	45	
2-Methylnaphthalene	1810	64.5	1650	"		4290			81.6	45	P3
2-Methylphenol	ND	5.33	16.0	"		ND				45	DL-6
3 & 4-Methylphenol	ND	14.6	43.7	"		66.3			200	45	DL-6, P3
Naphthalene	639	10.8	128	"		10900			178	45	P3
Pentachlorophenol	ND	13.3	39.9	"		ND				45	DL-6
Phenanthrene	15500	117	1550	"		16700			7.58	45	
Pyrene	6680	204	748	"		7840			15.9	45	
2,4,6-Trichlorophenol	ND	5.68	17.0	"		ND				45	DL-6
1-Methylnaphthalene	1740	64.5	1650	"		2590			39.1	45	
Surrogate: 2,4,6-Tribromophenol	*0.00*			"	*12.9*			*10-124*			*CC-01, SR01*
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*6.45*			*16.3-100*			*SR01*
Surrogate: 2-Fluorophenol	*0.00*			"	*12.9*			*10-100*			*CC-01, SR01*
Surrogate: Nitrobenzene-d5	*0.00*			"	*6.45*			*10-108*			*SR01*
Surrogate: Phenol-d5	*0.00*			"	*12.9*			*10-100*			*SR01*
Surrogate: Terphenyl-dl4	*0.00*			"	*6.45*			*10-100*			*SR01*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J12008 - EPA 5030B											
Blank (3J12008-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*52.0*			"	*50.0*		*104*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*			"	*50.0*		*102*	*80.6-115*			
Surrogate: Toluene-d8	*55.8*			"	*50.0*		*112*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*47.4*			"	*50.0*		*94.7*	*76.7-123*			
LCS (3J12008-BS1)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.5	62.8-141			
Ethylbenzene	18.9	0.190	5.00	"	20.0		94.3	66.9-139			
Surrogate: Dibromofluoromethane	*52.5*			"	*50.0*		*105*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*49.3*			"	*50.0*		*98.6*	*80.6-115*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*46.9*			"	*50.0*		*93.7*	*76.7-123*			
LCS Dup (3J12008-BSD1)											
Benzene	21.4	0.258	5.00	ug/L	20.0		107	62.8-141	7.22	30	
Ethylbenzene	19.8	0.190	5.00	"	20.0		98.9	66.9-139	4.81	30	
Surrogate: Dibromofluoromethane	*53.1*			"	*50.0*		*106*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.2*			"	*50.0*		*100*	*80.6-115*			
Surrogate: Toluene-d8	*52.9*			"	*50.0*		*106*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*48.4*			"	*50.0*		*96.9*	*76.7-123*			
Matrix Spike (3J12008-MS1)		**Source: 2310115-01**									
Benzene	21.6	0.258	5.00	ug/L	20.0	ND	108	60.9-154			
Ethylbenzene	19.4	0.190	5.00	"	20.0	ND	97.1	67.7-144			
Surrogate: Dibromofluoromethane	*53.8*			"	*50.0*		*108*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.7*			"	*50.0*		*101*	*80.6-115*			
Surrogate: Toluene-d8	*52.9*			"	*50.0*		*106*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.7*	*76.7-123*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J12008 - EPA 5030B											
Matrix Spike Dup (3J12008-MSD1)			**Source: 2310115-01**								
Benzene	21.2	0.258	5.00	ug/L	20.0	ND	106	60.9-154	1.63	35	
Ethylbenzene	19.5	0.190	5.00	"	20.0	ND	97.6	67.7-144	0.565	35	
Surrogate: Dibromofluoromethane	*53.4*			*"*	*50.0*		*107*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*			*"*	*50.0*		*102*	*80.6-115*			
Surrogate: Toluene-d8	*53.3*			*"*	*50.0*		*107*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*49.2*			*"*	*50.0*		*98.3*	*76.7-123*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chloroethylvinyl ether	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02
1,2-Dichloroethene (total)	C01,C02
1,3-Dichloropropene (total)	C01,C02
Xylenes (total)	C01

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:36

Isophorone	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
1-Methylnaphthalene	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 10/19/2023 13:36

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2024*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2024*
C03	*MS Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*MS Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*MS DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MSDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MSDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MSDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MSDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C10	*ADEM (Drinking Water Microbiology)*	*43500*	*12/31/2023*
C11	*ADEM (Drinking Water Chemistry)*	*43500*	*12/31/2023*
C14	*MSDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MSDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project:	Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number:	3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager:	Ethan Allen	10/19/2023 13:36

Analyst Initials Key

FullName	Initials
Alexandria S Windham	ASW
Brett S Fore	BSF
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2310035

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Project Name: MOBILE CFI 3RD QTR 2023
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days

- x Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	BNA	VOA	metals
Preservative:											
RW-3A	10-2-23/11:00	W	11	G	X	X	X	X	X	X	X
RW-2	10-2-23/11:45	W	11	G	X	X	X	X	X	X	X
RW-1	10-2-23/12:30	W	11	G	X	X	X	X	X	X	X
TBV#7222	10-2-23/11:00	W	2	G						X	

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y / N Thermometer# 5 Cooler # 6F **Receipt Temp Corrected(°C)** *
Date & Time _____ By: Sample ____ Blank X Cooler ____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	10/3/23	8:32
Received by	Teresa Meins		MM	10/3/23	832
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
* -0.2
-0.7

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

October 12, 2023

Ethan Allen

Work Order # : 2310060

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 10/04/2023 08:23. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/T-1	2310060-01	Water	10/03/2023 10:00	*Jeff Gonsoulin*	10/04/2023 08:23
Mobile/T-2	2310060-02	Water	10/03/2023 12:20	*Jeff Gonsoulin*	10/04/2023 08:23
Trip Blank TBV#7225	2310060-03	Water	10/03/2023 10:00	*Micro Methods*	10/04/2023 08:23

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Sample Receipt Conditions

Date/Time Received: 10/4/2023 8:23:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 10/4/2023 8:50:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: -0.8 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/12/2023 13:08

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/12/2023 13:08

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV outside acceptance limits. Sample results reported from this calibration were below the reporting limits.

Benzo (b) fluoranthene, Carbazole, Indeno (1,2,3-cd) pyrene

3J05002-BLK1, 3J05002-DUP1

CC-03 CCV outside acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, Benzo (b) fluoranthene, Indeno (1,2,3-cd) pyrene

3J05002-BLK1, 3J05002-BS1, 3J05002-BSD1, 3J05002-DUP1

CC-04 CCV outside acceptance limits. Results reported are estimated values.

Carbazole

3J05002-BS1, 3J05002-BSD1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 2-Methylnaphthalene, Acenaphthylene, Carbazole, Dibenz (a,h) anthracene, Pentachlorophenol

2310060-02[Mobile/T-2], 2310060-01[Mobile/T-1]

L1 LCS and/or LCSD Recovery Limit exceeded.

Carbazole

3J05002-BS1, 3J05002-BSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2310060-01[Mobile/T-1], 2310060-02[Mobile/T-2], 3J09041-DUP1, 3J09041-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Mobile/T-1

2310060-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.61**	0.04	0.21	mg/L	1.0	3J04056	ASW	10/04/2023 10:00	10/04/2023 13:10	Lachat 10-107-06-1-I	
Chloride	**3.48**	0.66	2.00	"	"	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**7.62**			pH Units	"	3J09041	TKM	10/09/2023 09:30	10/09/2023 09:30	SM 4500-H+B-2011	HT-02
Nitrate as N	ND	0.097	0.500	mg/L	"	3J04058	DLW	10/04/2023 14:45	10/04/2023 15:34	HACH 10206	
Specific Conductance (EC)	**306**			umhos/cm @25.0 C	"	3J04034	JBM	10/04/2023 09:22	10/04/2023 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J06004	GWG	10/06/2023 08:30	10/06/2023 13:17	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**95.0**	1.92	10.4	ug/L	1.0	3J05002	CRLV	10/05/2023 08:23	10/07/2023 03:05	EPA 8270D	
Acenaphthylene	**13.8**	2.28	10.4	"	"	"	CRLV	"	"	"	
Anthracene	**39.2**	2.28	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**151**	2.42	10.4	"	"	"	CRLV	"	10/10/2023 14:10	"	
Benzo (b) fluoranthene	**206**	2.55	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**51.0**	3.02	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**90.5**	2.72	10.4	"	"	"	CRLV	"	10/07/2023 03:05	"	
Bis(2-ethylhexyl)phthalate	ND	3.17	10.4	"	"	"	CRLV	"	"	"	
Carbazole	**5.85**	3.46	10.4	"	"	"	CRLV	"	10/10/2023 14:10	"	J
4-Chloro-3-methylphenol	ND	2.46	10.4	"	"	"	CRLV	"	10/07/2023 03:05	"	
Chrysene	**194**	2.34	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**14.0**	1.46	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	**25.1**	2.15	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.31	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.72	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.52	10.4	"	"	"	CRLV	"	10/10/2023 14:10	"	
Fluoranthene	**183**	2.08	10.4	"	"	"	CRLV	"	10/07/2023 03:05	"	
Fluorene	**54.8**	2.30	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**40.8**	2.58	10.4	"	"	"	CRLV	"	10/10/2023 14:10	"	
2-Methylnaphthalene	**7.95**	2.19	10.4	"	"	"	CRLV	"	10/07/2023 03:05	"	J
2-Methylphenol	ND	1.84	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.79	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	2.02	10.4	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Mobile/T-1

2310060-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Pentachlorophenol	**3.79**	3.09	10.4	"	1.0	3J05002	CRLV	10/05/2023 08:23	"	"	J
Phenanthrene	**35.8**	2.53	10.4	"	"	"	CRLV	"	"	"	
Pyrene	**163**	3.04	10.4	"	"	"	CRLV	"	10/10/2023 14:10	"	
2,4,6-Trichlorophenol	ND	2.03	10.4	"	"	"	CRLV	"	10/07/2023 03:05	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	109	*105 %*	*24.2-116*	"	CRLV	"	*10/10/2023 14:10*	"	
2-Fluorobiphenyl	29.6	*57.2 %*	*17.3-101*	"	CRLV	"	*10/07/2023 03:05*	"	
2-Fluorophenol	24.2	*23.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	20.2	*39.1 %*	*10-111*	"	CRLV	"	"	"	
Phenol-d5	17.4	*16.8 %*	*10.8-100*	"	CRLV	"	"	"	
Terphenyl-dl4	16.7	*32.3 %*	*10-102*	"	CRLV	"	*10/10/2023 14:10*	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 17:48	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.7	*101 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.6	*89.1 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	54.0	*108 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.8	*93.6 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Mobile/T-2

2310060-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**6.02**	0.04	0.21	mg/L	1.0	3J04056	ASW	10/04/2023 10:00	10/04/2023 13:11	Lachat 10-107-06-1-I	
Chloride	**48.3**	0.66	2.00	"	"	3J05024	DLW	10/05/2023 11:30	10/06/2023 08:12	ASTM D 512-12	
pH	**6.72**			pH Units	"	3J09041	TKM	10/09/2023 09:30	10/09/2023 09:30	SM 4500-H+B-2011	HT-02
Nitrate as N	ND	0.097	0.500	mg/L	"	3J04058	DLW	10/04/2023 14:45	10/04/2023 15:34	HACH 10206	
Specific Conductance (EC)	**970**			umhos/cm @25.0 C	"	3J04034	JBM	10/04/2023 09:22	10/04/2023 09:25	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J06004	GWG	10/06/2023 08:30	10/06/2023 13:22	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Mobile/T-2

2310060-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**483**	19.1	103	ug/L	10.0	3J05002	CRLV	10/05/2023 08:23	10/09/2023 13:56	EPA 8270D	
Acenaphthylene	**6.63**	2.27	10.3	"	1.0	"	CRLV	"	10/07/2023 03:45	"	J
Anthracene	**107**	2.27	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**125**	24.1	103	"	10.0	"	CRLV	"	10/09/2023 13:56	"	
Benzo (b) fluoranthene	**121**	2.54	10.3	"	1.0	"	CRLV	"	10/10/2023 14:49	"	
Benzo (k) fluoranthene	**36.4**	3.00	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**72.1**	2.71	10.3	"	"	"	CRLV	"	10/07/2023 03:45	"	
Bis(2-ethylhexyl)phthalate	ND	3.15	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**67.5**	3.44	10.3	"	"	"	CRLV	"	10/10/2023 14:49	"	
4-Chloro-3-methylphenol	ND	2.44	10.3	"	"	"	CRLV	"	10/07/2023 03:45	"	
Chrysene	**173**	2.33	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**9.78**	1.45	10.3	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**145**	2.13	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**2.04**	1.30	10.3	"	"	"	CRLV	"	"	"	J
2,4-Dinitrophenol	ND	2.70	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.51	10.3	"	"	"	CRLV	"	10/10/2023 14:49	"	
Fluoranthene	**752**	20.7	103	"	10.0	"	CRLV	"	10/09/2023 13:56	"	
Fluorene	**352**	22.9	103	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**25.7**	2.57	10.3	"	1.0	"	CRLV	"	10/10/2023 14:49	"	
2-Methylnaphthalene	**133**	2.18	10.3	"	"	"	CRLV	"	10/07/2023 03:45	"	
2-Methylphenol	ND	1.84	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.78	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**47.4**	2.01	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	3.07	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	**667**	25.2	103	"	10.0	"	CRLV	"	10/09/2023 13:56	"	
Pyrene	**334**	30.2	103	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.02	10.3	"	1.0	"	CRLV	"	10/07/2023 03:45	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	111	*108 %*	*24.2-116*	"	CRLV	"	*10/10/2023 14:49*	"	
2-Fluorobiphenyl	27.5	*53.4 %*	*17.3-101*	"	CRLV	"	*10/07/2023 03:45*	"	
2-Fluorophenol	25.7	*24.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	20.8	*40.3 %*	*10-111*	"	CRLV	"	"	"	
Phenol-d5	18.3	*17.8 %*	*10.8-100*	"	CRLV	"	"	"	
Terphenyl-dl4	18.4	*35.6 %*	*10-102*	"	CRLV	"	*10/09/2023 13:56*	"	

Volatile Organic Compounds by EPA Method 8260D

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Mobile/T-2

2310060-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 18:12	EPA 8260D	
Ethylbenzene	**7.35**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.5	*101 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.2	*90.4 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	54.5	*109 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.9	*93.8 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Trip Blank TBV#7225

2310060-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 18:35	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	51.2	*102 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.9	*89.8 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	54.4	*109 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.1	*96.2 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04034 - Default Prep GenChem											
LCS (3J04034-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90.1-113			
LCS (3J04034-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3J04034-DUP1)			**Source: 2310035-03**								
Specific Conductance (EC)	1170			umhos/cm @25.0 C		1170			0.171	20	
Batch 3J04056 - Default Prep GenChem											
Blank (3J04056-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3J04056-BS1)											
Ammonia as N	5.00	0.04	0.21	mg/L	5.00		100	90-110			
LCS Dup (3J04056-BSD1)											
Ammonia as N	5.00	0.04	0.21	mg/L	5.00		100	90-110	0.00	10	
Duplicate (3J04056-DUP1)			**Source: 2310035-03**								
Ammonia as N	7.51	0.04	0.21	mg/L		7.37			1.88	10	
Matrix Spike (3J04056-MS1)			**Source: 2310041-01**								
Ammonia as N	5.12	0.04	0.21	mg/L	5.00	0.20	98.5	90-110			
Matrix Spike Dup (3J04056-MSD1)			**Source: 2310041-01**								
Ammonia as N	5.12	0.04	0.21	mg/L	5.00	0.20	98.5	90-110	0.00	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J04058 - Default Prep GenChem											
Blank (3J04058-BLK1)											
Nitrate as N	ND	0.097	0.500	mg/L							
LCS (3J04058-BS1)											
Nitrate as N	10.1	0.097	0.500	mg/L	10.0		101	90-110			
LCS Dup (3J04058-BSD1)											
Nitrate as N	10.1	0.097	0.500	mg/L	10.0		101	90-110	0.00	20	
Duplicate (3J04058-DUP1)			**Source: 2310060-01**								
Nitrate as N	ND	0.097	0.500	mg/L		ND				20	
Matrix Spike (3J04058-MS1)			**Source: 2310060-01**								
Nitrate as N	4.09	0.097	0.500	mg/L	4.00	ND	102	90-110			
Matrix Spike Dup (3J04058-MSD1)			**Source: 2310060-01**								
Nitrate as N	4.10	0.097	0.500	mg/L	4.00	ND	103	90-110	0.244	20	
Batch 3J05024 - Default Prep GenChem											
Blank (3J05024-BLK1)											
Chloride	ND	0.66	2.00	mg/L							
LCS (3J05024-BS1)											
Chloride	25.1	0.66	2.00	mg/L	25.0		100	85-115			
LCS Dup (3J05024-BSD1)											
Chloride	25.0	0.66	2.00	mg/L	25.0		100	85-115	0.399	30	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05024 - Default Prep GenChem											
Duplicate (3J05024-DUP1)			**Source: 2310060-01**								
Chloride	3.54	0.66	2.00	mg/L		3.48			1.71	20	
Matrix Spike (3J05024-MS1)			**Source: 2310060-01**								
Chloride	22.4	0.66	2.00	mg/L	20.0	3.48	94.6	70-130			
Matrix Spike Dup (3J05024-MSD1)			**Source: 2310060-01**								
Chloride	22.8	0.66	2.00	mg/L	20.0	3.48	96.6	70-130	1.77	20	
Batch 3J09041 - Default Prep GenChem											
Duplicate (3J09041-DUP1)			**Source: 2310151-01**								
pH	5.11			pH Units		5.11			0.00	5	HT-02
Duplicate (3J09041-DUP2)			**Source: 2310060-02**								
pH	6.72			pH Units		6.72			0.00	5	HT-02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J06004 - EPA 200.2 DCN 1017 Rev 10											
Blank (3J06004-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3J06004-BS1)											
Arsenic [He]	0.105	0.00078	0.00200	mg/L	0.100		105	85-115			
Chromium [He]	0.106	0.00016	0.00100	"	0.100		106	85-115			
Lead [He]	0.105	0.00022	0.00100	"	0.100		105	85-115			
Nickel [He]	0.107	0.00035	0.0400	"	0.100		107	85-115			
LCS Dup (3J06004-BSD1)											
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100		104	85-115	0.601	20	
Chromium [He]	0.107	0.00016	0.00100	"	0.100		107	85-115	0.329	20	
Lead [He]	0.105	0.00022	0.00100	"	0.100		105	85-115	0.231	20	
Nickel [He]	0.106	0.00035	0.0400	"	0.100		106	85-115	0.434	20	
Matrix Spike (3J06004-MS1)			**Source: 2310057-01**								
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100	ND	104	70-130			
Chromium [He]	0.106	0.00016	0.00100	"	0.100	ND	106	70-130			
Lead [He]	0.105	0.00022	0.00100	"	0.100	ND	105	70-130			
Nickel [He]	0.108	0.00035	0.0400	"	0.100	0.003	105	70-130			
Matrix Spike (3J06004-MS2)			**Source: 2310057-04**								
Arsenic [He]	0.104	0.00078	0.00200	mg/L	0.100	ND	104	70-130			
Chromium [He]	0.107	0.00016	0.00100	"	0.100	ND	107	70-130			
Lead [He]	0.105	0.00022	0.00100	"	0.100	ND	105	70-130			
Nickel [He]	0.106	0.00035	0.0400	"	0.100	ND	106	70-130			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J06004 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (3J06004-MSD1)			**Source: 2310057-01**								
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100	ND	103	70-130	0.187	20	
Chromium [He]	0.106	0.00016	0.00100	"	0.100	ND	106	70-130	0.459	20	
Lead [He]	0.104	0.00022	0.00100	"	0.100	ND	104	70-130	0.381	20	
Nickel [He]	0.108	0.00035	0.0400	"	0.100	0.003	105	70-130	0.211	20	
Matrix Spike Dup (3J06004-MSD2)			**Source: 2310057-04**								
Arsenic [He]	0.098	0.00078	0.00200	mg/L	0.100	ND	98.4	70-130	5.10	20	
Chromium [He]	0.101	0.00016	0.00100	"	0.100	ND	101	70-130	5.86	20	
Lead [He]	0.099	0.00022	0.00100	"	0.100	ND	98.9	70-130	6.12	20	
Nickel [He]	0.100	0.00035	0.0400	"	0.100	ND	100	70-130	5.79	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05002 - EPA 3510C DCN 4000 Rev 12											
Blank (3J05002-BLK1)											
Acenaphthene	ND	1.85	10.0	ug/L							
Acenaphthylene	ND	2.20	10.0	"							
Anthracene	ND	2.20	10.0	"							
Benzo (a) anthracene	ND	2.34	10.0	"							
Benzo (b) fluoranthene	ND	2.46	10.0	"							CC-01
Benzo (k) fluoranthene	ND	2.91	10.0	"							
Benzo (a) pyrene	ND	2.63	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	3.06	10.0	"							
Carbazole	ND	3.34	10.0	"							CC-01
4-Chloro-3-methylphenol	ND	2.37	10.0	"							
Chrysene	ND	2.26	10.0	"							
Dibenz (a,h) anthracene	ND	1.41	10.0	"							
Dibenzofuran	ND	2.07	10.0	"							
2,4-Dimethylphenol	ND	1.26	10.0	"							
2,4-Dinitrophenol	ND	2.62	10.0	"							
Di-n-octyl phthalate	ND	3.40	10.0	"							
Fluoranthene	ND	2.01	10.0	"							
Fluorene	ND	2.22	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	2.49	10.0	"							CC-01
2-Methylnaphthalene	ND	2.11	10.0	"							
2-Methylphenol	ND	1.78	10.0	"							
3 & 4-Methylphenol	ND	1.73	10.0	"							
Naphthalene	ND	1.95	10.0	"							
Pentachlorophenol	ND	2.98	10.0	"							
Phenanthrene	ND	2.44	10.0	"							
Pyrene	ND	2.93	10.0	"							
2,4,6-Trichlorophenol	ND	1.96	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*89.2*			"	*100*		*89.2*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*24.7*			"	*50.0*		*49.3*	*17.3-101*			
Surrogate: 2-Fluorophenol	*28.7*			"	*100*		*28.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*21.8*			"	*50.0*		*43.6*	*10-111*			
Surrogate: Phenol-d5	*20.1*			"	*100*		*20.1*	*10.8-100*			
Surrogate: Terphenyl-dl4	*38.4*			"	*50.0*		*76.9*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05002 - EPA 3510C DCN 4000 Rev 12											
LCS (3J05002-BS1)											
Acenaphthene	63.2	1.85	10.0	ug/L	100		63.2	28.1-100			
Acenaphthylene	102	2.20	10.0	"	100		102	30.5-105			
Anthracene	64.9	2.20	10.0	"	100		64.9	34.1-100			
Benzo (a) anthracene	65.0	2.34	10.0	"	100		65.0	34.3-107			
Benzo (b) fluoranthene	56.4	2.46	10.0	"	100		56.4	32.6-101			CC-03
Benzo (k) fluoranthene	60.8	2.91	10.0	"	100		60.8	27-104			
Benzo (a) pyrene	63.4	2.63	10.0	"	100		63.4	31.7-100			
Bis(2-ethylhexyl)phthalate	66.0	3.06	10.0	"	100		66.0	10-146			
Carbazole	196	3.34	10.0	"	100		196	10-147			CC-04, L1
4-Chloro-3-methylphenol	65.6	2.37	10.0	"	100		65.6	34.8-101			
Chrysene	64.6	2.26	10.0	"	100		64.6	35.2-105			
Dibenz (a,h) anthracene	61.7	1.41	10.0	"	100		61.7	25.9-116			
Dibenzofuran	62.9	2.07	10.0	"	100		62.9	37.3-100			
2,4-Dimethylphenol	60.7	1.26	10.0	"	100		60.7	30.1-100			
2,4-Dinitrophenol	71.4	2.62	10.0	"	100		71.4	11-124			
Di-n-octyl phthalate	52.4	3.40	10.0	"	100		52.4	10-136			
Fluoranthene	72.6	2.01	10.0	"	100		72.6	22.5-125			
Fluorene	65.3	2.22	10.0	"	100		65.3	31.2-106			
Indeno (1,2,3-cd) pyrene	64.7	2.49	10.0	"	100		64.7	17.7-123			CC-03
2-Methylnaphthalene	56.4	2.11	10.0	"	100		56.4	32.5-100			
2-Methylphenol	50.6	1.78	10.0	"	100		50.6	26.5-100			
3 & 4-Methylphenol	89.3	1.73	10.0	"	200		44.7	21.3-100			
Naphthalene	54.5	1.95	10.0	"	100		54.5	10-115			
Pentachlorophenol	72.0	2.98	10.0	"	100		72.0	25.8-110			
Phenanthrene	65.9	2.44	10.0	"	100		65.9	21.2-119			
Pyrene	56.1	2.93	10.0	"	100		56.1	10-129			
2,4,6-Trichlorophenol	66.6	1.96	10.0	"	100		66.6	41.3-100			
Surrogate: 2,4,6-Tribromophenol	*105*			"	*100*		*105*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*31.1*			"	*50.0*		*62.3*	*17.3-101*			
Surrogate: 2-Fluorophenol	*42.4*			"	*100*		*42.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*34.0*			"	*50.0*		*67.9*	*10-111*			
Surrogate: Phenol-d5	*31.1*			"	*100*		*31.1*	*10.8-100*			
Surrogate: Terphenyl-dl4	*29.8*			"	*50.0*		*59.5*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05002 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3J05002-BSD1)											
Acenaphthene	56.7	1.85	10.0	ug/L	100		56.7	28.1-100	11.0	40	
Acenaphthylene	86.6	2.20	10.0	"	100		86.6	30.5-105	15.9	40	
Anthracene	58.7	2.20	10.0	"	100		58.7	34.1-100	10.1	40	
Benzo (a) anthracene	59.5	2.34	10.0	"	100		59.5	34.3-107	8.90	40	
Benzo (b) fluoranthene	53.4	2.46	10.0	"	100		53.4	32.6-101	5.61	40	CC-03
Benzo (k) fluoranthene	57.7	2.91	10.0	"	100		57.7	27-104	5.28	40	
Benzo (a) pyrene	55.7	2.63	10.0	"	100		55.7	31.7-100	13.0	40	
Bis(2-ethylhexyl)phthalate	69.0	3.06	10.0	"	100		69.0	10-146	4.44	40	
Carbazole	178	3.34	10.0	"	100		178	10-147	9.88	40	CC-04, L1
4-Chloro-3-methylphenol	59.5	2.37	10.0	"	100		59.5	34.8-101	9.71	40	
Chrysene	59.2	2.26	10.0	"	100		59.2	35.2-105	8.61	40	
Dibenz (a,h) anthracene	57.8	1.41	10.0	"	100		57.8	25.9-116	6.56	40	
Dibenzofuran	57.8	2.07	10.0	"	100		57.8	37.3-100	8.42	40	
2,4-Dimethylphenol	53.8	1.26	10.0	"	100		53.8	30.1-100	12.2	40	
2,4-Dinitrophenol	61.9	2.62	10.0	"	100		61.9	11-124	14.2	40	
Di-n-octyl phthalate	67.4	3.40	10.0	"	100		67.4	10-136	25.0	40	
Fluoranthene	65.2	2.01	10.0	"	100		65.2	22.5-125	10.7	40	
Fluorene	59.2	2.22	10.0	"	100		59.2	31.2-106	9.78	40	
Indeno (1,2,3-cd) pyrene	61.1	2.49	10.0	"	100		61.1	17.7-123	5.69	40	CC-03
2-Methylnaphthalene	53.1	2.11	10.0	"	100		53.1	32.5-100	6.08	40	
2-Methylphenol	43.3	1.78	10.0	"	100		43.3	26.5-100	15.6	40	
3 & 4-Methylphenol	76.9	1.73	10.0	"	200		38.4	21.3-100	15.0	40	
Naphthalene	51.2	1.95	10.0	"	100		51.2	10-115	6.23	40	
Pentachlorophenol	61.7	2.98	10.0	"	100		61.7	25.8-110	15.4	40	
Phenanthrene	60.9	2.44	10.0	"	100		60.9	21.2-119	7.87	40	
Pyrene	59.8	2.93	10.0	"	100		59.8	10-129	6.26	40	
2,4,6-Trichlorophenol	60.3	1.96	10.0	"	100		60.3	41.3-100	9.90	40	
Surrogate: 2,4,6-Tribromophenol	*98.3*			"	*100*		*98.3*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*29.2*			"	*50.0*		*58.5*	*17.3-101*			
Surrogate: 2-Fluorophenol	*34.8*			"	*100*		*34.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.4*			"	*50.0*		*60.8*	*10-111*			
Surrogate: Phenol-d5	*26.5*			"	*100*		*26.5*	*10.8-100*			
Surrogate: Terphenyl-dl4	*29.4*			"	*50.0*		*58.8*	*10-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J05002 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3J05002-DUP1)			**Source: 2310062-01**								
Acenaphthene	ND	1.89	10.2	ug/L		ND				45	
Acenaphthylene	ND	2.24	10.2	"		ND				45	
Anthracene	ND	2.24	10.2	"		ND				45	
Benzo (a) anthracene	ND	2.39	10.2	"		ND				45	
Benzo (b) fluoranthene	ND	2.51	10.2	"		ND				45	CC-01
Benzo (k) fluoranthene	ND	2.97	10.2	"		ND				45	
Benzo (a) pyrene	ND	2.68	10.2	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	3.12	10.2	"		ND				45	
Carbazole	ND	3.41	10.2	"		ND				45	CC-01
4-Chloro-3-methylphenol	ND	2.42	10.2	"		ND				45	
Chrysene	ND	2.31	10.2	"		ND				45	
Dibenz (a,h) anthracene	ND	1.44	10.2	"		ND				45	
Dibenzofuran	ND	2.11	10.2	"		ND				45	
2,4-Dimethylphenol	ND	1.29	10.2	"		ND				45	
2,4-Dinitrophenol	ND	2.67	10.2	"		ND				45	
Di-n-octyl phthalate	ND	3.47	10.2	"		ND				45	
Fluoranthene	ND	2.05	10.2	"		ND				45	
Fluorene	ND	2.27	10.2	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	2.54	10.2	"		ND				45	CC-01
2-Methylnaphthalene	ND	2.15	10.2	"		ND				45	
2-Methylphenol	ND	1.82	10.2	"		ND				45	
3 & 4-Methylphenol	ND	1.77	10.2	"		ND				45	
Naphthalene	13.5	1.99	10.2	"		17.3			24.9	45	
Pentachlorophenol	ND	3.04	10.2	"		ND				45	
Phenanthrene	ND	2.49	10.2	"		ND				45	
Pyrene	ND	2.99	10.2	"		ND				45	
2,4,6-Trichlorophenol	ND	2.00	10.2	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*88.8*			"	*102*		*87.1*	*24.2-116*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*22.1*			"	*51.0*		*43.4*	*17.3-101*			
Surrogate: 2-Fluorophenol	*23.9*			"	*102*		*23.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*18.7*			"	*51.0*		*36.7*	*10-111*			
Surrogate: Phenol-d5	*17.5*			"	*102*		*17.2*	*10.8-100*			
Surrogate: Terphenyl-dl4	*21.1*			"	*51.0*		*41.3*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J12008 - EPA 5030B											
Blank (3J12008-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*52.0*			"	*50.0*		*104*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*			"	*50.0*		*102*	*80.6-115*			
Surrogate: Toluene-d8	*55.8*			"	*50.0*		*112*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*47.4*			"	*50.0*		*94.7*	*76.7-123*			
LCS (3J12008-BS1)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.5	62.8-141			
Ethylbenzene	18.9	0.190	5.00	"	20.0		94.3	66.9-139			
Surrogate: Dibromofluoromethane	*52.5*			"	*50.0*		*105*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*49.3*			"	*50.0*		*98.6*	*80.6-115*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*46.9*			"	*50.0*		*93.7*	*76.7-123*			
LCS Dup (3J12008-BSD1)											
Benzene	21.4	0.258	5.00	ug/L	20.0		107	62.8-141	7.22	30	
Ethylbenzene	19.8	0.190	5.00	"	20.0		98.9	66.9-139	4.81	30	
Surrogate: Dibromofluoromethane	*53.1*			"	*50.0*		*106*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.2*			"	*50.0*		*100*	*80.6-115*			
Surrogate: Toluene-d8	*52.9*			"	*50.0*		*106*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*48.4*			"	*50.0*		*96.9*	*76.7-123*			
Matrix Spike (3J12008-MS1)		**Source: 2310115-01**									
Benzene	21.6	0.258	5.00	ug/L	20.0	ND	108	60.9-154			
Ethylbenzene	19.4	0.190	5.00	"	20.0	ND	97.1	67.7-144			
Surrogate: Dibromofluoromethane	*53.8*			"	*50.0*		*108*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.7*			"	*50.0*		*101*	*80.6-115*			
Surrogate: Toluene-d8	*52.9*			"	*50.0*		*106*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.7*	*76.7-123*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J12008 - EPA 5030B											
Matrix Spike Dup (3J12008-MSD1)			**Source: 2310115-01**								
Benzene	21.2	0.258	5.00	ug/L	20.0	ND	106	60.9-154	1.63	35	
Ethylbenzene	19.5	0.190	5.00	"	20.0	ND	97.6	67.7-144	0.565	35	
Surrogate: Dibromofluoromethane	*53.4*			*"*	*50.0*		*107*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*			*"*	*50.0*		*102*	*80.6-115*			
Surrogate: Toluene-d8	*53.3*			*"*	*50.0*		*107*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*49.2*			*"*	*50.0*		*98.3*	*76.7-123*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chloroethylvinyl ether	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02
1,2-Dichloroethene (total)	C01,C02
1,3-Dichloropropene (total)	C01,C02
Xylenes (total)	C01

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzyl alcohol	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Butyl benzyl phthalate	C01,C02
Carbazole	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

4-Chloroaniline	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/12/2023 13:08

Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/12/2023 13:08

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2024*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2024*
C03	*MS Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*MS Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*MS DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MSDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MSDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MSDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MSDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C10	*ADEM (Drinking Water Microbiology)*	*43500*	*12/31/2023*
C11	*ADEM (Drinking Water Chemistry)*	*43500*	*12/31/2023*
C14	*MSDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MSDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project:	Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number:	3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager:	Ethan Allen	10/12/2023 13:08

Analyst Initials Key

FullName	Initials
Alexandria S Windham	ASW
Brett S Fore	BSF
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2310060

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBSURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 3RD QTR 2023
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	METALS	AMMONIA	BNA	VOA
Preservative:											
T-1	10-3-23/10:00	W	7	G	X	X	X	X	X	X	X
T-2	10-3-23/12:20	W	7	G	X	X	X	X	X	X	X
TBV# 7225	10-3-23/10:00	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? (Y) N Thermometer# 58 Cooler # Client **Receipt Temp Corrected(°C)** -0.8°C
Date & Time _____ By: _____ Sample____ Blank X Cooler____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	10/4/23	8:23
Received by	Sarah Tomek		MM	10/4/23	0823
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

DCN F316 Rev.6
MicroMethods Laboratory
Issued/Revised 6/15/22

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

October 19, 2023

Ethan Allen

Work Order # : 2310145

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 10/05/2023 14:50. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-2	2310145-01	Water	10/05/2023 09:00	*Jeff Gonsoulin*	10/05/2023 14:50
Mobile/RC-3	2310145-02	Water	10/05/2023 09:45	*Jeff Gonsoulin*	10/05/2023 14:50
Mobile/E-1	2310145-03	Water	10/05/2023 11:00	*Jeff Gonsoulin*	10/05/2023 14:50
Mobile/RW-4	2310145-04	Water	10/05/2023 10:40	*Jeff Gonsoulin*	10/05/2023 14:50
Mobile/RW-5	2310145-05	Water	10/05/2023 11:30	*Jeff Gonsoulin*	10/05/2023 14:50
Trip Blank TBV#7263	2310145-06	Water	10/05/2023 09:00	*Micro Methods*	10/05/2023 14:50

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Sample Receipt Conditions

Date/Time Received: 10/5/2023 2:50:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 10/5/2023 3:11:00PM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Cooler ID: client cooler #2

Receipt Temperature: 4.5 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:34

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:34

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

B-01 Target found in blank; laboratory contamination.

2-Methylnaphthalene, Phenanthrene

3J09038-BLK1

B-10 The analyte value in the BLK or CCB is >=1/2xMRL but <MRL.

Acenaphthene, Fluoranthene, Fluorene

3J09038-BLK1

CC-01 CCV outside acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4,6-Tribromophenol, 2,4-Dinitrophenol, 2-Fluorophenol, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

3J09039-DUP1, 2310145-01[Mobile/RC-2], 3J10031-BLK1, 3J10031-DUP1

CC-03 CCV outside acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4,6-Tribromophenol, 2,4-Dinitrophenol, 2-Fluorophenol, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene

2310145-01[Mobile/RC-2], 2310145-03[Mobile/E-1], 2310145-04[Mobile/ RW-4], 2310145-05[Mobile/RW-5], 3J09039-BLK1, 3J09039-BS1, 3J09039-BSD1, 3J10031-BLK1, 3J10031-BS1, 3J10031-DUP1, 3J10031-BSD1

CC-04 CCV outside acceptance limits. Results reported are estimated values.

2,4,6-Tribromophenol

3J10031-BSD1

DL-6 Dilution required. Lowest achievable MRL due to matrix interterence.

2,4,6-Trichlorophenol, 2,4-Dimethylphenol, 2,4-Dinitrophenol, 2-Methylphenol, 3 & 4-Methylphenol, 4-Chloro-3-methylphenol, Bis(2-ethylhexyl)phthalate, Dibenz (a,h) anthracene, Di-n-octyl phthalate, Pentachlorophenol

3J09039-DUP1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Acenaphthylene, Dibenz (a,h) anthracene, Phenanthrene

2310145-02[Mobile/RC-3], 2310145-01[Mobile/RC-2]

L1 LCS and/or LCSD Recovery Limit exceeded.

Phenanthrene

3J09038-BS1, 3J09038-BSD1

L2 LCS and/or LCSD Recovery below acceptance limit.

1-Methylnaphthalene, 2,4-Dimethylphenol, 2-Methylnaphthalene, 2-Methylphenol, 4-Chloro-3-methylphenol, Acenaphthene, Acenaphthylene, Dibenzofuran, Fluorene, Naphthalene

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:34

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

3J09039-BS1

L3 LCS/LCSD Precision Limit exceeded.

1-Methylnaphthalene, 2,4,6-Trichlorophenol, 2,4-Dimethylphenol, 2-Methylnaphthalene, 2-Methylphenol, 3 & 4-Methylphenol, Acenaphthene, Acenaphthylene, Dibenzofuran, Fluorene, Naphthalene, Phenanthrene

3J09039-BSD1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

2,4-Dimethylphenol, 2-Methylnaphthalene, 3 & 4-Methylphenol, Dibenz (a,h) anthracene, Naphthalene, Pentachlorophenol

3J09039-DUP1, 3J10031-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2,4,6-Tribromophenol, 2-Fluorobiphenyl, 2-Fluorophenol, Nitrobenzene-d5, Phenol-d5, Terphenyl-dl4

3J09039-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5

2310145-04[Mobile/RW-4]

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2310145-01[Mobile/RC-2], 2310145-02[Mobile/RC-3], 2310145-03[Mobile/E-1], 2310145-04[Mobile/ RW-4], 2310145-05[Mobile/RW-5], 3J09041-DUP1, 3J09041-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RC-2

2310145-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**3.60**	0.04	0.21	mg/L	1.0	3J11050	ASW	10/11/2023 10:00	10/11/2023 11:49	Lachat 10-107-06-1-I	
Chloride	**56.1**	0.66	2.00	"	"	3J10052	DLW	10/10/2023 14:25	10/10/2023 16:07	ASTM D 512-12	
pH	**6.64**			pH Units	"	3J09041	TKM	10/09/2023 09:30	10/09/2023 09:30	SM 4500-H+B-2011	HT-02
Nitrate as N	**0.679**	0.097	0.500	mg/L	"	3J06009	DLW	10/06/2023 09:15	10/06/2023 10:24	HACH 10206	
Specific Conductance (EC)	**570**			umhos/cm @25.0 C	"	3J12007	JBM	10/12/2023 09:55	10/12/2023 09:57	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J10046	GWG	10/10/2023 12:00	10/11/2023 12:43	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00154**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**48.6**	1.89	10.2	ug/L	1.0	3J10031	CRLV	10/10/2023 09:00	10/11/2023 19:57	EPA 8270D	
Acenaphthylene	ND	2.24	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	2.24	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	2.39	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.51	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	2.97	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.68	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.12	10.2	"	"	"	CRLV	"	"	"	
Carbazole	ND	3.41	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	2.42	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	2.31	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	1.44	10.2	"	"	"	CRLV	"	"	"	CC-01
Dibenzofuran	ND	2.11	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.29	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.67	10.2	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	3.47	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	2.05	10.2	"	"	"	CRLV	"	"	"	
Fluorene	**18.6**	2.27	10.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.54	10.2	"	"	"	CRLV	"	"	"	CC-01
2-Methylnaphthalene	ND	2.15	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	1.82	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.77	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.99	10.2	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	3.04	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	**2.99**	2.49	10.2	"	"	"	CRLV	"	"	"	J

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RC-2

2310145-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Pyrene	ND	2.99	10.2	"	1.0	3J10031	CRLV	10/10/2023 09:00	"	"	
2,4,6-Trichlorophenol	ND	2.00	10.2	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	81.7	*80.0 %*	*24.2-130*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	25.7	*50.4 %*	*17.3-101*	"	CRLV	"	"	"	
2-Fluorophenol	21.0	*20.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	21.6	*42.4 %*	*10-111*	"	CRLV	"	"	"	
Phenol-d5	15.2	*14.9 %*	*10.8-100*	"	CRLV	"	"	"	
Terphenyl-dl4	26.7	*52.4 %*	*10-102*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 18:59	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.4	*101 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.7	*89.3 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	54.4	*109 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.1	*94.1 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RC-3

2310145-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**14.5**	0.04	0.21	mg/L	1.0	3J11050	ASW	10/11/2023 10:00	10/11/2023 11:50	Lachat 10-107-06-1-I	
Chloride	**607**	6.60	20.0	"	10.0	3J10052	DLW	10/10/2023 14:25	10/10/2023 16:07	ASTM D 512-12	
pH	**7.15**			pH Units	1.0	3J09041	TKM	10/09/2023 09:30	10/09/2023 09:30	SM 4500-H+B-2011	HT-02
Nitrate as N	**3.22**	0.097	0.500	mg/L	"	3J06009	DLW	10/06/2023 09:15	10/06/2023 10:24	HACH 10206	
Specific Conductance (EC)	**2750**			umhos/cm @25.0 C	"	3J12007	JBM	10/12/2023 09:55	10/12/2023 09:57	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J10046	GWG	10/10/2023 12:00	10/11/2023 12:56	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00136**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RC-3

2310145-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**636**	19.1	103	ug/L	10.0	3J10031	CRLV	10/10/2023 09:00	10/12/2023 14:19	EPA 8270D	
Acenaphthylene	**8.46**	2.27	10.3	"	1.0	"	CRLV	"	10/11/2023 20:36	"	J
Anthracene	**72.6**	2.27	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**153**	2.41	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**120**	2.54	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**42.6**	3.00	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**69.0**	2.71	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.15	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**401**	34.4	103	"	10.0	"	CRLV	"	10/12/2023 14:19	"	
4-Chloro-3-methylphenol	ND	2.44	10.3	"	1.0	"	CRLV	"	10/11/2023 20:36	"	
Chrysene	**145**	2.33	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**10.0**	1.45	10.3	"	"	"	CRLV	"	10/12/2023 14:57	"	J
Dibenzofuran	**282**	21.3	103	"	10.0	"	CRLV	"	10/12/2023 14:19	"	
2,4-Dimethylphenol	**26.9**	1.30	10.3	"	1.0	"	CRLV	"	10/11/2023 20:36	"	
2,4-Dinitrophenol	ND	2.70	10.3	"	"	"	CRLV	"	10/12/2023 14:57	"	
Di-n-octyl phthalate	ND	3.51	10.3	"	"	"	CRLV	"	10/11/2023 20:36	"	
Fluoranthene	**1440**	20.7	103	"	10.0	"	CRLV	"	10/12/2023 14:19	"	
Fluorene	**462**	22.9	103	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**25.6**	2.57	10.3	"	1.0	"	CRLV	"	10/12/2023 14:57	"	
2-Methylnaphthalene	**312**	21.8	103	"	10.0	"	CRLV	"	10/12/2023 14:19	"	
2-Methylphenol	**31.4**	1.84	10.3	"	1.0	"	CRLV	"	10/11/2023 20:36	"	
3 & 4-Methylphenol	**25.1**	1.78	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**1380**	20.1	103	"	10.0	"	CRLV	"	10/12/2023 14:19	"	
Pentachlorophenol	ND	3.07	10.3	"	1.0	"	CRLV	"	10/11/2023 20:36	"	
Phenanthrene	**1480**	25.2	103	"	10.0	"	CRLV	"	10/12/2023 14:19	"	
Pyrene	**582**	30.2	103	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.02	10.3	"	1.0	"	CRLV	"	10/11/2023 20:36	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	70.7	*68.6 %*	*24.2-116*	"	CRLV	"	*10/12/2023 14:19*	"	
2-Fluorobiphenyl	18.3	*35.5 %*	*17.3-101*	"	CRLV	"	*10/11/2023 20:36*	"	
2-Fluorophenol	16.1	*15.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	16.2	*31.5 %*	*10-111*	"	CRLV	"	"	"	
Phenol-d5	13.5	*13.1 %*	*10.8-100*	"	CRLV	"	"	"	
Terphenyl-dl4	18.3	*35.5 %*	*10-102*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RC-3

2310145-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**23.1**	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 19:23	EPA 8260D	
Ethylbenzene	**19.6**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	51.0	*102 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.8	*89.7 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	56.5	*113 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.8	*93.6 %*	*76.7-123*	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/E-1

2310145-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**21.0**	0.04	0.21	mg/L	1.0	3J11050	ASW	10/11/2023 10:00	10/11/2023 11:51	Lachat 10-107-06-1-I	
Chloride	**721**	6.60	20.0	"	10.0	3J10052	DLW	10/10/2023 14:25	10/10/2023 16:07	ASTM D 512-12	
pH	**6.83**			pH Units	1.0	3J09041	TKM	10/09/2023 09:30	10/09/2023 09:30	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**3210**			umhos/cm @25.0 C	"	3J12007	JBM	10/12/2023 09:55	10/12/2023 09:57	SM 2510 B-2011	
Nitrate as N	**1.89**	0.097	0.500	mg/L	"	3J06009	DLW	10/06/2023 09:15	10/06/2023 10:24	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00255**	0.00078	0.00200	mg/L	1.0	3J10046	GWG	10/10/2023 12:00	10/11/2023 13:00	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00441**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/E-1

2310145-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**361**	9.07	111	ug/L	100.0	3J09039	CRLV	10/09/2023 09:57	10/11/2023 04:47	EPA 8270D	
Acenaphthylene	**2.72**	0.09	1.20	"	1.0	"	CRLV	"	10/12/2023 13:44	"	
Anthracene	**14.5**	1.02	13.3	"	10.0	"	CRLV	"	10/11/2023 07:43	"	
Benzo (a) anthracene	**9.60**	0.09	0.95	"	1.0	"	CRLV	"	10/12/2023 13:44	"	
Benzo (b) fluoranthene	**6.15**	0.15	1.47	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**2.12**	0.12	0.88	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**3.87**	0.12	1.29	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**3.85**	0.37	1.11	"	"	"	CRLV	"	"	"	
Carbazole	**5.51**	2.70	5.15	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.57	1.70	"	"	"	CRLV	"	"	"	
Chrysene	**8.09**	0.08	0.92	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.19	1.84	"	"	"	CRLV	"	"	"	
Dibenzofuran	**132**	41.1	124	"	100.0	"	CRLV	"	10/11/2023 04:47	"	
2,4-Dimethylphenol	ND	0.36	1.08	"	1.0	"	CRLV	"	10/12/2023 13:44	"	
2,4-Dinitrophenol	ND	1.48	4.45	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.59	1.75	"	"	"	CRLV	"	"	"	
Fluoranthene	**63.4**	0.26	15.5	"	10.0	"	CRLV	"	10/11/2023 07:43	"	
Fluorene	**181**	11.0	123	"	100.0	"	CRLV	"	10/11/2023 04:47	"	
Indeno (1,2,3-cd) pyrene	ND	0.15	1.68	"	1.0	"	CRLV	"	10/12/2023 13:44	"	
2-Methylnaphthalene	**143**	5.15	132	"	100.0	"	CRLV	"	10/11/2023 04:47	"	
2-Methylphenol	ND	0.43	1.28	"	1.0	"	CRLV	"	10/12/2023 13:44	"	
3 & 4-Methylphenol	ND	1.16	3.49	"	"	"	CRLV	"	"	"	
Naphthalene	**16.8**	0.87	10.2	"	10.0	"	CRLV	"	10/11/2023 07:43	"	
Pentachlorophenol	ND	1.03	1.03	"	1.0	"	CRLV	"	10/12/2023 13:44	"	
Phenanthrene	**31.9**	0.94	12.4	"	10.0	"	CRLV	"	10/11/2023 07:43	"	
Pyrene	**93.8**	16.3	59.8	"	100.0	"	CRLV	"	10/11/2023 04:47	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	1.0	"	CRLV	"	10/12/2023 13:44	"	
1-Methylnaphthalene	**204**	5.15	132	"	100.0	"	CRLV	"	10/11/2023 04:47	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/E-1

2310145-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Surrogate	***Result***	***% Rec***		***Rec Limits***		***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	8.66	*84.0 %*		*10-124*		*3J09039*	CRLV	*10/09/2023 09:57*	*10/11/2023 07:43*	"	*CC-03*
2-Fluorobiphenyl	2.78	*54.0 %*		*16.3-100*		"	CRLV	"	"	"	
2-Fluorophenol	2.76	*26.8 %*		*10-100*		"	CRLV	"	*10/12/2023 13:44*	"	*CC-03*
Nitrobenzene-d5	1.44	*28.0 %*		*10-108*		"	CRLV	"	*10/11/2023 07:43*	"	
Phenol-d5	2.38	*23.1 %*		*10-100*		"	CRLV	"	*10/12/2023 13:44*	"	
Terphenyl-dl4	1.96	*38.0 %*		*10-100*		"	CRLV	"	*10/11/2023 07:43*	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**38.9**	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 19:46	EPA 8260D	
Ethylbenzene	**17.8**	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***		***Rec Limits***		***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	50.0	*100 %*		*73.6-118*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.3	*88.5 %*		*80.6-115*		"	BSF	"	"	"	
Toluene-d8	55.5	*111 %*		*70.8-125*		"	BSF	"	"	"	
4-Bromofluorobenzene	47.5	*95.1 %*		*76.7-123*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RW-4

2310145-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
2-Methylnaphthalene	**0.51**	0.51	0.51	ug/L	10.0	3J09038	CRLV	10/09/2023 09:48	10/16/2023 22:25	EPA 8270D	
Acenaphthylene	ND	0.01	0.06	"	1.0	"	CRLV	"	10/16/2023 23:44	"	
Anthracene	**0.28**	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.35**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.14**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.15**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.18**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.19**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.10**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.08**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0812	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0102	*5.00 %*	*19.6-113*	"	CRLV	"	"	"	*SR06*
Terphenyl-dl4	0.173	*85.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	**3.65**	0.04	0.21	mg/L	1.0	3J11050	ASW	10/11/2023 10:00	10/11/2023 11:52	Lachat 10-107-06-1-I	
Chloride	**84.3**	0.66	2.00	"	"	3J10052	DLW	10/10/2023 14:25	10/10/2023 16:07	ASTM D 512-12	
pH	**6.68**			pH Units	"	3J09041	TKM	10/09/2023 09:30	10/09/2023 09:30	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**460**			umhos/cm @25.0 C	"	3J12007	JBM	10/12/2023 09:55	10/12/2023 09:57	SM 2510 B-2011	
Nitrate as N	ND	0.097	0.500	mg/L	"	3J06009	DLW	10/06/2023 09:15	10/06/2023 10:24	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J10046	GWG	10/10/2023 12:00	10/11/2023 13:05	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00120**	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00110**	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RW-4

2310145-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Acenaphthene	**8.94**	0.09	1.11	ug/L	1.0	3J09039	CRLV	10/09/2023 09:57	10/11/2023 07:09	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	"	"	"	CRLV	"	"	"	
Carbazole	ND	27.0	51.5	"	10.0	"	CRLV	"	10/11/2023 04:13	"	
4-Chloro-3-methylphenol	ND	0.57	1.70	"	1.0	"	CRLV	"	10/11/2023 07:09	"	
Dibenzofuran	**2.90**	0.41	1.24	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.08	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.48	4.45	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.59	1.75	"	"	"	CRLV	"	"	"	
Fluorene	**3.99**	0.11	1.23	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.16	3.49	"	"	"	CRLV	"	"	"	
Naphthalene	**5.02**	0.09	1.02	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.03	1.03	"	"	"	CRLV	"	"	"	
Phenanthrene	**2.41**	0.09	1.24	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	**4.86**	0.05	1.32	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	9.13	*88.6 %*	*10-124*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	2.31	*44.8 %*	*16.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	1.61	*15.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.82	*35.4 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	1.39	*13.5 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	2.13	*41.4 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 20:10	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	51.2	*102 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.0	*92.0 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	53.4	*107 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.8	*95.6 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RW-5

2310145-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
2-Methylnaphthalene	**0.13**	0.05	0.05	ug/L	1.0	3J09038	CRLV	10/09/2023 09:48	10/16/2023 21:45	EPA 8270D	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.38**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	**0.29**	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.33**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.21**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.09**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0821	*40.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.123	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.144	*70.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	**0.32**	0.04	0.21	mg/L	1.0	3J12014	ASW	10/12/2023 10:30	10/12/2023 12:08	Lachat 10-107-06-1-I	
Chloride	**5.08**	0.66	2.00	"	"	3J10052	DLW	10/10/2023 14:25	10/10/2023 16:07	ASTM D 512-12	
pH	**6.93**			pH Units	"	3J09041	TKM	10/09/2023 09:30	10/09/2023 10:22	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**90**			umhos/cm @25.0 C	"	3J12007	JBM	10/12/2023 09:55	10/12/2023 09:57	SM 2510 B-2011	
Nitrate as N	ND	0.097	0.500	mg/L	"	3J06009	DLW	10/06/2023 09:15	10/06/2023 10:24	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00078	0.00200	mg/L	1.0	3J10046	GWG	10/10/2023 12:00	10/11/2023 13:09	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00016	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00022	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00035	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Mobile/RW-5

2310145-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	ug/L	1.0	3J09039	CRLV	10/09/2023 09:57	10/11/2023 03:37	EPA 8270D	
Carbazole	ND	2.70	5.15	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.57	1.70	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.24	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.36	1.08	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.48	4.45	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.59	1.75	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.16	3.49	"	"	"	CRLV	"	"	"	
Naphthalene	**1.46**	0.09	1.02	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	1.03	1.03	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.32	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	9.84	*95.4 %*	*10-124*	"	CRLV	"	"	"	*CC-03*
2-Fluorobiphenyl	2.59	*50.2 %*	*16.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	1.80	*17.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.43	*47.2 %*	*10-108*	"	CRLV	"	"	"	
Phenol-d5	1.80	*17.5 %*	*10-100*	"	CRLV	"	"	"	
Terphenyl-dl4	2.46	*47.8 %*	*10-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 20:34	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.8	*102 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.6	*91.1 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	53.3	*107 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	46.7	*93.3 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:34

Trip Blank TBV#7263

2310145-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	3J12008	BSF	10/10/2023 08:00	10/10/2023 20:57	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	50.5	*101 %*	*73.6-118*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.6	*91.2 %*	*80.6-115*	"	BSF	"	"	"	
Toluene-d8	52.4	*105 %*	*70.8-125*	"	BSF	"	"	"	
4-Bromofluorobenzene	47.0	*93.9 %*	*76.7-123*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09038 - EPA 3510C DCN 4000 Rev 12											
Blank (3J09038-BLK1)											
Naphthalene	ND	0.02	0.15	ug/L							
2-Methylnaphthalene	0.06	0.05	0.05	"							B-01
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							B-10
Fluorene	ND	0.02	0.12	"							B-10
Phenanthrene	0.26	0.02	0.06	"							B-01
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							B-10
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*17.3-101*			
Surrogate: Nitrobenzene-d5	*0.0600*			"	*0.200*		*30.0*	*19.6-111*			
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09038 - EPA 3510C DCN 4000 Rev 12											
LCS (3J09038-BS1)											
Naphthalene	0.13	0.02	0.15	ug/L	0.200		65.0	10-115			
2-Methylnaphthalene	0.18	0.05	0.05	"	0.200		90.0	32.5-100			
Acenaphthylene	0.16	0.01	0.06	"	0.200		80.0	30.5-105			
Acenaphthene	0.19	0.02	0.05	"	0.200		95.0	28.1-100			
Fluorene	0.20	0.02	0.12	"	0.200		100	31.2-106			
Phenanthrene	0.34	0.02	0.06	"	0.200		170	21.2-119			L1
Anthracene	0.17	0.02	0.06	"	0.200		85.0	34.1-100			
Fluoranthene	0.20	0.03	0.06	"	0.200		100	22.5-125			
Pyrene	0.15	0.02	0.05	"	0.200		75.0	10-129			
Benzo (a) anthracene	0.18	0.02	0.06	"	0.200		90.0	34.3-107			
Chrysene	0.16	0.03	0.05	"	0.200		80.0	35.2-105			
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	32.6-101			
Benzo (k) fluoranthene	0.18	0.02	0.05	"	0.200		90.0	27-104			
Benzo (a) pyrene	0.15	0.02	0.06	"	0.200		75.0	31.7-100			
Indeno (1,2,3-cd) pyrene	0.14	0.02	0.17	"	0.200		70.0	17.7-123			
Dibenz (a,h) anthracene	0.16	0.04	0.16	"	0.200		80.0	25.9-116			
Surrogate: 2-Fluorobiphenyl	*0.150*			"	*0.200*		*75.0*	*17.3-101*			
Surrogate: Nitrobenzene-d5	*0.0500*			"	*0.200*		*25.0*	*19.6-111*			
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09038 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3J09038-BSD1)											
Naphthalene	0.13	0.02	0.15	ug/L	0.200		65.0	10-115	0.00	40	
2-Methylnaphthalene	0.19	0.05	0.05	"	0.200		95.0	32.5-100	5.41	40	
Acenaphthylene	0.16	0.01	0.06	"	0.200		80.0	30.5-105	0.00	40	
Acenaphthene	0.20	0.02	0.05	"	0.200		100	28.1-100	5.13	40	
Fluorene	0.20	0.02	0.12	"	0.200		100	31.2-106	0.00	40	
Phenanthrene	0.41	0.02	0.06	"	0.200		205	21.2-119	18.7	40	L1
Anthracene	0.19	0.02	0.06	"	0.200		95.0	34.1-100	11.1	40	
Fluoranthene	0.21	0.03	0.06	"	0.200		105	22.5-125	4.88	40	
Pyrene	0.16	0.02	0.05	"	0.200		80.0	10-129	6.45	40	
Benzo (a) anthracene	0.18	0.02	0.06	"	0.200		90.0	34.3-107	0.00	40	
Chrysene	0.16	0.03	0.05	"	0.200		80.0	35.2-105	0.00	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	32.6-101	0.00	40	
Benzo (k) fluoranthene	0.18	0.02	0.05	"	0.200		90.0	27-104	0.00	40	
Benzo (a) pyrene	0.15	0.02	0.06	"	0.200		75.0	31.7-100	0.00	40	
Indeno (1,2,3-cd) pyrene	0.15	0.02	0.17	"	0.200		75.0	17.7-123	6.90	40	
Dibenz (a,h) anthracene	0.16	0.04	0.16	"	0.200		80.0	25.9-116	0.00	40	
Surrogate: 2-Fluorobiphenyl	*0.160*			"	*0.200*		*80.0*	*17.3-101*			
Surrogate: Nitrobenzene-d5	*0.0700*			"	*0.200*		*35.0*	*19.6-111*			
Surrogate: Terphenyl-dl4	*0.180*			"	*0.200*		*90.0*	*11.3-102*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	10/19/2023 13:34

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J06009 - Default Prep GenChem											
Blank (3J06009-BLK1)											
Nitrate as N	ND	0.097	0.500	mg/L							
LCS (3J06009-BS1)											
Nitrate as N	9.88	0.097	0.500	mg/L	10.0		98.8	90-110			
LCS Dup (3J06009-BSD1)											
Nitrate as N	9.90	0.097	0.500	mg/L	10.0		99.0	90-110	0.202	20	
Duplicate (3J06009-DUP1)			**Source: 2310145-05**								
Nitrate as N	0.119	0.097	0.500	mg/L		0.131			9.60	20	
Matrix Spike (3J06009-MS1)			**Source: 2310145-05**								
Nitrate as N	4.12	0.097	0.500	mg/L	4.00	0.131	99.7	90-110			
Matrix Spike Dup (3J06009-MSD1)			**Source: 2310145-05**								
Nitrate as N	4.15	0.097	0.500	mg/L	4.00	0.131	100	90-110	0.726	20	
Batch 3J09041 - Default Prep GenChem											
Duplicate (3J09041-DUP1)			**Source: 2310151-01**								
pH	5.11			pH Units		5.11			0.00	5	HT-02
Duplicate (3J09041-DUP2)			**Source: 2310060-02**								
pH	6.72			pH Units		6.72			0.00	5	HT-02
Batch 3J10052 - Default Prep GenChem											
Blank (3J10052-BLK1)											
Chloride	ND	0.66	2.00	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J10052 - Default Prep GenChem											
LCS (3J10052-BS1)											
Chloride	25.2	0.66	2.00	mg/L	25.0		101	85-115			
LCS Dup (3J10052-BSD1)											
Chloride	25.1	0.66	2.00	mg/L	25.0		100	85-115	0.398	30	
Duplicate (3J10052-DUP1)			**Source: 2310145-05**								
Chloride	5.11	0.66	2.00	mg/L		5.08			0.589	20	
Matrix Spike (3J10052-MS1)			**Source: 2310145-05**								
Chloride	24.2	0.66	2.00	mg/L	20.0	5.08	95.6	70-130			
Matrix Spike Dup (3J10052-MSD1)			**Source: 2310145-05**								
Chloride	23.9	0.66	2.00	mg/L	20.0	5.08	94.1	70-130	1.25	20	
Batch 3J11050 - Default Prep GenChem											
Blank (3J11050-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3J11050-BS1)											
Ammonia as N	5.22	0.04	0.21	mg/L	5.00		104	90-110			
LCS Dup (3J11050-BSD1)											
Ammonia as N	5.18	0.04	0.21	mg/L	5.00		104	90-110	0.769	10	
Duplicate (3J11050-DUP1)			**Source: 2310132-01**								
Ammonia as N	1470	3.60	21.0	mg/L		1460			0.683	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J11050 - Default Prep GenChem											
Matrix Spike (3J11050-MS1)			**Source: 2310077-02**								
Ammonia as N	5.06	0.04	0.21	mg/L	5.00	0.16	98.0	90-110			
Matrix Spike Dup (3J11050-MSD1)			**Source: 2310077-02**								
Ammonia as N	5.03	0.04	0.21	mg/L	5.00	0.16	97.4	90-110	0.595	10	
Batch 3J12007 - Default Prep GenChem											
LCS (3J12007-BS1)											
Specific Conductance (EC)	1430			uS/cm	1410		101	90.1-113			
LCS (3J12007-BS2)											
Specific Conductance (EC)	1020			uS/cm	1000		102	90.1-113			
Duplicate (3J12007-DUP1)			**Source: 2310145-04**								
Specific Conductance (EC)	458			umhos/cm @25.0 C		460			0.501	20	
Batch 3J12014 - Default Prep GenChem											
Blank (3J12014-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (3J12014-BS1)											
Ammonia as N	5.13	0.04	0.21	mg/L	5.00		103	90-110			
LCS Dup (3J12014-BSD1)											
Ammonia as N	5.10	0.04	0.21	mg/L	5.00		102	90-110	0.587	10	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J12014 - Default Prep GenChem											
Matrix Spike (3J12014-MS1)			**Source: 2310229-01**								
Ammonia as N	4.84	0.04	0.21	mg/L	5.00	0.17	93.4	90-110			
Matrix Spike Dup (3J12014-MSD1)			**Source: 2310229-01**								
Ammonia as N	5.08	0.04	0.21	mg/L	5.00	0.17	98.2	90-110	4.84	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J10046 - EPA 200.2 DCN 1017 Rev 10											
Blank (3J10046-BLK1)											
Arsenic [He]	ND	0.00078	0.00200	mg/L							
Chromium [He]	ND	0.00016	0.00100	"							
Lead [He]	ND	0.00022	0.00100	"							
Nickel [He]	ND	0.00035	0.0400	"							
LCS (3J10046-BS1)											
Arsenic [He]	0.103	0.00078	0.00200	mg/L	0.100		103	85-115			
Chromium [He]	0.107	0.00016	0.00100	"	0.100		107	85-115			
Lead [He]	0.104	0.00022	0.00100	"	0.100		104	85-115			
Nickel [He]	0.105	0.00035	0.0400	"	0.100		105	85-115			
LCS Dup (3J10046-BSD1)											
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100		102	85-115	1.04	20	
Chromium [He]	0.104	0.00016	0.00100	"	0.100		104	85-115	2.39	20	
Lead [He]	0.103	0.00022	0.00100	"	0.100		103	85-115	0.942	20	
Nickel [He]	0.104	0.00035	0.0400	"	0.100		104	85-115	0.618	20	
Matrix Spike (3J10046-MS1)			**Source: 2310143-01**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130			
Chromium [He]	0.100	0.00016	0.00100	"	0.100	ND	99.9	70-130			
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130			
Nickel [He]	0.098	0.00035	0.0400	"	0.100	ND	98.4	70-130			
Matrix Spike (3J10046-MS2)			**Source: 2310144-01**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130			
Chromium [He]	0.100	0.00016	0.00100	"	0.100	ND	100	70-130			
Lead [He]	0.103	0.00022	0.00100	"	0.100	ND	103	70-130			
Nickel [He]	0.099	0.00035	0.0400	"	0.100	ND	98.6	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J10046 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (3J10046-MSD1)			**Source: 2310143-01**								
Arsenic [He]	0.101	0.00078	0.00200	mg/L	0.100	ND	101	70-130	0.0594	20	
Chromium [He]	0.100	0.00016	0.00100	"	0.100	ND	99.9	70-130	0.0138	20	
Lead [He]	0.104	0.00022	0.00100	"	0.100	ND	104	70-130	1.12	20	
Nickel [He]	0.099	0.00035	0.0400	"	0.100	ND	98.6	70-130	0.157	20	
Matrix Spike Dup (3J10046-MSD2)			**Source: 2310144-01**								
Arsenic [He]	0.102	0.00078	0.00200	mg/L	0.100	ND	102	70-130	1.04	20	
Chromium [He]	0.101	0.00016	0.00100	"	0.100	ND	101	70-130	0.211	20	
Lead [He]	0.105	0.00022	0.00100	"	0.100	ND	105	70-130	1.41	20	
Nickel [He]	0.100	0.00035	0.0400	"	0.100	ND	99.9	70-130	1.36	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
Blank (3J09039-BLK1)											
Acenaphthene	ND	0.09	1.08	ug/L							
Acenaphthylene	ND	0.09	1.16	"							
Anthracene	ND	0.10	1.29	"							
Benzo (a) anthracene	ND	0.09	0.92	"							
Benzo (b) fluoranthene	ND	0.14	1.43	"							
Benzo (k) fluoranthene	ND	0.12	0.85	"							
Benzo (a) pyrene	ND	0.12	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.36	1.08	"							
Carbazole	ND	2.62	5.00	"							
4-Chloro-3-methylphenol	ND	0.55	1.65	"							
Chrysene	ND	0.08	0.89	"							
Dibenz (a,h) anthracene	ND	0.19	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.35	1.05	"							
2,4-Dinitrophenol	ND	1.44	4.32	"							
Di-n-octyl phthalate	ND	0.57	1.70	"							
Fluoranthene	ND	0.03	1.50	"							
Fluorene	ND	0.11	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.15	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.08	0.99	"							
Pentachlorophenol	ND	1.03	3.09	"							
Phenanthrene	ND	0.09	1.20	"							
Pyrene	ND	0.16	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*6.14*			"	*10.0*		*61.4*	*10-124*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*1.75*			"	*5.00*		*35.0*	*16.3-100*			
Surrogate: 2-Fluorophenol	*1.37*			"	*10.0*		*13.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.63*			"	*5.00*		*32.6*	*10-108*			
Surrogate: Phenol-d5	*1.08*			"	*10.0*		*10.8*	*10-100*			
Surrogate: Terphenyl-dl4	*2.21*			"	*5.00*		*44.2*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
LCS (3J09039-BS1)											
Acenaphthene	3.21	0.09	1.08	ug/L	10.0		32.1	40.4-100			L2
Acenaphthylene	3.31	0.09	1.16	"	10.0		33.1	38-100			L2
Anthracene	5.10	0.10	1.29	"	10.0		51.0	36.9-100			
Benzo (a) anthracene	6.37	0.09	0.92	"	10.0		63.7	37.6-100			
Benzo (b) fluoranthene	6.23	0.14	1.43	"	10.0		62.3	20.1-117			
Benzo (k) fluoranthene	6.52	0.12	0.85	"	10.0		65.2	26.8-106			
Benzo (a) pyrene	6.50	0.12	1.25	"	10.0		65.0	20.6-105			
Bis(2-ethylhexyl)phthalate	6.44	0.36	1.08	"	10.0		64.4	46.2-161			
Carbazole	6.28	2.62	5.00	"	10.0		62.8	41.1-107			
4-Chloro-3-methylphenol	3.97	0.55	1.65	"	10.0		39.7	40-104			L2
Chrysene	6.71	0.08	0.89	"	10.0		67.1	35.4-100			
Dibenz (a,h) anthracene	7.01	0.19	1.78	"	10.0		70.1	12.8-116			
Dibenzofuran	3.45	0.40	1.20	"	10.0		34.5	46.3-100			L2
2,4-Dimethylphenol	2.53	0.35	1.05	"	10.0		25.3	37.6-103			L2
2,4-Dinitrophenol	5.93	1.44	4.32	"	10.0		59.3	10-132			
Di-n-octyl phthalate	5.76	0.57	1.70	"	10.0		57.6	33.7-167			
Fluoranthene	6.27	0.03	1.50	"	10.0		62.7	42.3-100			
Fluorene	3.80	0.11	1.19	"	10.0		38.0	45.2-100			L2
Indeno (1,2,3-cd) pyrene	6.20	0.15	1.63	"	10.0		62.0	11.5-117			
2-Methylnaphthalene	2.94	0.05	1.28	"	10.0		29.4	32.8-100			L2
2-Methylphenol	2.51	0.41	1.24	"	10.0		25.1	29.7-100			L2
3 & 4-Methylphenol	4.64	1.13	3.39	"	20.0		23.2	17.5-108			
Naphthalene	2.93	0.08	0.99	"	10.0		29.3	35.5-100			L2
Pentachlorophenol	6.44	1.03	3.09	"	10.0		64.4	10-137			
Phenanthrene	5.05	0.09	1.20	"	10.0		50.5	40.8-100			
Pyrene	5.63	0.16	0.58	"	10.0		56.3	42.1-104			
2,4,6-Trichlorophenol	4.31	0.44	1.32	"	10.0		43.1	37-130			
1-Methylnaphthalene	2.58	0.05	1.28	"	10.0		25.8	35.3-100			L2
Surrogate: 2,4,6-Tribromophenol	*7.17*			"	*10.0*		*71.7*	*10-124*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*1.93*			"	*5.00*		*38.6*	*16.3-100*			
Surrogate: 2-Fluorophenol	*1.61*			"	*10.0*		*16.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*1.89*			"	*5.00*		*37.8*	*10-108*			
Surrogate: Phenol-d5	*1.19*			"	*10.0*		*11.9*	*10-100*			
Surrogate: Terphenyl-dl4	*2.34*			"	*5.00*		*46.8*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3J09039-BSD1)											
Acenaphthene	7.84	0.09	1.08	ug/L	10.0		78.4	40.4-100	83.8	48	L3
Acenaphthylene	7.76	0.09	1.16	"	10.0		77.6	38-100	80.4	74	L3
Anthracene	8.56	0.10	1.29	"	10.0		85.6	36.9-100	50.7	66	
Benzo (a) anthracene	9.38	0.09	0.92	"	10.0		93.8	37.6-100	38.2	53	
Benzo (b) fluoranthene	8.86	0.14	1.43	"	10.0		88.6	20.1-117	34.9	71	
Benzo (k) fluoranthene	9.08	0.12	0.85	"	10.0		90.8	26.8-106	32.8	63	
Benzo (a) pyrene	9.17	0.12	1.25	"	10.0		91.7	20.6-105	34.1	72	
Bis(2-ethylhexyl)phthalate	9.55	0.36	1.08	"	10.0		95.5	46.2-161	38.9	82	
Carbazole	8.37	2.62	5.00	"	10.0		83.7	41.1-107	28.5	40	
4-Chloro-3-methylphenol	8.22	0.55	1.65	"	10.0		82.2	40-104	69.7	73	
Chrysene	9.47	0.08	0.89	"	10.0		94.7	35.4-100	34.1	87	
Dibenz (a,h) anthracene	10.3	0.19	1.78	"	10.0		103	12.8-116	38.3	126	
Dibenzofuran	7.99	0.40	1.20	"	10.0		79.9	46.3-100	79.4	40	L3
2,4-Dimethylphenol	10.2	0.35	1.05	"	10.0		102	37.6-103	121	58	L3
2,4-Dinitrophenol	6.06	1.44	4.32	"	10.0		60.6	10-132	2.17	132	
Di-n-octyl phthalate	8.53	0.57	1.70	"	10.0		85.3	33.7-167	38.8	69	
Fluoranthene	8.56	0.03	1.50	"	10.0		85.6	42.3-100	30.9	66	
Fluorene	8.37	0.11	1.19	"	10.0		83.7	45.2-100	75.1	38	L3
Indeno (1,2,3-cd) pyrene	8.96	0.15	1.63	"	10.0		89.6	11.5-117	36.4	99	
2-Methylnaphthalene	7.34	0.05	1.28	"	10.0		73.4	32.8-100	85.6	40	L3
2-Methylphenol	6.06	0.41	1.24	"	10.0		60.6	29.7-100	82.8	40	L3
3 & 4-Methylphenol	12.5	1.13	3.39	"	20.0		62.6	17.5-108	91.8	40	L3
Naphthalene	7.03	0.08	0.99	"	10.0		70.3	35.5-100	82.3	65	L3
Pentachlorophenol	11.8	1.03	3.09	"	10.0		118	10-137	58.5	86	
Phenanthrene	8.74	0.09	1.20	"	10.0		87.4	40.8-100	53.5	39	L3
Pyrene	8.83	0.16	0.58	"	10.0		88.3	42.1-104	44.3	49	
2,4,6-Trichlorophenol	10.2	0.44	1.32	"	10.0		102	37-130	80.9	58	L3
1-Methylnaphthalene	6.32	0.05	1.28	"	10.0		63.2	35.3-100	84.0	40	L3
Surrogate: 2,4,6-Tribromophenol	*10.2*			"	*10.0*		*102*	*10-124*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*3.14*			"	*5.00*		*62.8*	*16.3-100*			
Surrogate: 2-Fluorophenol	*3.38*			"	*10.0*		*33.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*3.17*			"	*5.00*		*63.4*	*10-108*			
Surrogate: Phenol-d5	*2.32*			"	*10.0*		*23.2*	*10-100*			
Surrogate: Terphenyl-dl4	*2.73*			"	*5.00*		*54.6*	*10-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J09039 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3J09039-DUP1)			**Source: 2310035-01**								
Acenaphthene	6040	114	1390	ug/L		7010			14.8	45	
Acenaphthylene	25.7	1.16	15.0	"		28.6			10.9	45	
Anthracene	2790	128	1660	"		3340			18.1	45	
Benzo (a) anthracene	2950	111	1190	"		3910			27.8	45	
Benzo (b) fluoranthene	1680	18.2	185	"		1920			13.0	45	
Benzo (k) fluoranthene	604	15.5	110	"		636			5.11	45	
Benzo (a) pyrene	955	15.6	161	"		1140			17.5	45	
Bis(2-ethylhexyl)phthalate	ND	4.63	13.9	"		ND				45	DL-6
Carbazole	879	338	645	"		787			11.0	45	
4-Chloro-3-methylphenol	ND	7.08	21.3	"		ND				45	DL-6
Chrysene	3080	101	1150	"		3820			21.3	45	
Dibenz (a,h) anthracene	42.6	24.0	230	"		74.4			54.4	45	DL-6, P3
Dibenzofuran	4010	515	1550	"		4640			14.5	45	
2,4-Dimethylphenol	9.68	4.50	13.5	"		144			175	45	DL-6, P3
2,4-Dinitrophenol	ND	18.6	55.7	"		ND				45	DL-6
Di-n-octyl phthalate	ND	73.3	219	"		ND				45	DL-6
Fluoranthene	10800	33.2	1940	"		12100			11.2	45	
Fluorene	6310	138	1540	"		6940			9.57	45	
Indeno (1,2,3-cd) pyrene	225	18.8	210	"		318			34.4	45	
2-Methylnaphthalene	1810	64.5	1650	"		4290			81.6	45	P3
2-Methylphenol	ND	5.33	16.0	"		ND				45	DL-6
3 & 4-Methylphenol	ND	14.6	43.7	"		66.3			200	45	DL-6, P3
Naphthalene	639	10.8	128	"		10900			178	45	P3
Pentachlorophenol	ND	13.3	39.9	"		ND				45	DL-6
Phenanthrene	15500	117	1550	"		16700			7.58	45	
Pyrene	6680	204	748	"		7840			15.9	45	
2,4,6-Trichlorophenol	ND	5.68	17.0	"		ND				45	DL-6
1-Methylnaphthalene	1740	64.5	1650	"		2590			39.1	45	
Surrogate: 2,4,6-Tribromophenol	*0.00*			"	*12.9*			*10-124*			*CC-01, SR01*
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*6.45*			*16.3-100*			*SR01*
Surrogate: 2-Fluorophenol	*0.00*			"	*12.9*			*10-100*			*CC-01, SR01*
Surrogate: Nitrobenzene-d5	*0.00*			"	*6.45*			*10-108*			*SR01*
Surrogate: Phenol-d5	*0.00*			"	*12.9*			*10-100*			*SR01*
Surrogate: Terphenyl-dl4	*0.00*			"	*6.45*			*10-100*			*SR01*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J10031 - EPA 3510C DCN 4000 Rev 12											
Blank (3J10031-BLK1)											
Acenaphthene	ND	1.85	10.0	ug/L							
Acenaphthylene	ND	2.20	10.0	"							
Anthracene	ND	2.20	10.0	"							
Benzo (a) anthracene	ND	2.34	10.0	"							
Benzo (b) fluoranthene	ND	2.46	10.0	"							
Benzo (k) fluoranthene	ND	2.91	10.0	"							
Benzo (a) pyrene	ND	2.63	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	3.06	10.0	"							
Carbazole	ND	3.34	10.0	"							
4-Chloro-3-methylphenol	ND	2.37	10.0	"							
Chrysene	ND	2.26	10.0	"							
Dibenz (a,h) anthracene	ND	1.41	10.0	"							CC-01
Dibenzofuran	ND	2.07	10.0	"							
2,4-Dimethylphenol	ND	1.26	10.0	"							
2,4-Dinitrophenol	ND	2.62	10.0	"							CC-01
Di-n-octyl phthalate	ND	3.40	10.0	"							
Fluoranthene	ND	2.01	10.0	"							
Fluorene	ND	2.22	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	2.49	10.0	"							CC-01
2-Methylnaphthalene	ND	2.11	10.0	"							
2-Methylphenol	ND	1.78	10.0	"							
3 & 4-Methylphenol	ND	1.73	10.0	"							
Naphthalene	ND	1.95	10.0	"							
Pentachlorophenol	ND	2.98	10.0	"							
Phenanthrene	ND	2.44	10.0	"							
Pyrene	ND	2.93	10.0	"							
2,4,6-Trichlorophenol	ND	1.96	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*111*			"	*100*		*111*	*24.2-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*26.5*			"	*50.0*		*52.9*	*17.3-101*			
Surrogate: 2-Fluorophenol	*32.2*			"	*100*		*32.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*24.4*			"	*50.0*		*48.8*	*10-111*			
Surrogate: Phenol-d5	*22.6*			"	*100*		*22.6*	*10.8-100*			
Surrogate: Terphenyl-dl4	*30.9*			"	*50.0*		*61.9*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J10031 - EPA 3510C DCN 4000 Rev 12											
LCS (3J10031-BS1)											
Acenaphthene	73.5	1.85	10.0	ug/L	100		73.5	28.1-100			
Acenaphthylene	85.2	2.20	10.0	"	100		85.2	30.5-105			
Anthracene	76.9	2.20	10.0	"	100		76.9	34.1-100			
Benzo (a) anthracene	73.7	2.34	10.0	"	100		73.7	34.3-107			
Benzo (b) fluoranthene	69.5	2.46	10.0	"	100		69.5	32.6-101			
Benzo (k) fluoranthene	75.0	2.91	10.0	"	100		75.0	27-104			
Benzo (a) pyrene	71.0	2.63	10.0	"	100		71.0	31.7-100			
Bis(2-ethylhexyl)phthalate	78.0	3.06	10.0	"	100		78.0	10-146			
Carbazole	92.7	3.34	10.0	"	100		92.7	10-147			
4-Chloro-3-methylphenol	67.9	2.37	10.0	"	100		67.9	34.8-101			
Chrysene	72.8	2.26	10.0	"	100		72.8	35.2-105			
Dibenz (a,h) anthracene	77.2	1.41	10.0	"	100		77.2	25.9-116			CC-03
Dibenzofuran	72.3	2.07	10.0	"	100		72.3	37.3-100			
2,4-Dimethylphenol	68.2	1.26	10.0	"	100		68.2	30.1-100			
2,4-Dinitrophenol	101	2.62	10.0	"	100		101	11-124			CC-03
Di-n-octyl phthalate	81.8	3.40	10.0	"	100		81.8	10-136			
Fluoranthene	85.3	2.01	10.0	"	100		85.3	22.5-125			
Fluorene	78.0	2.22	10.0	"	100		78.0	31.2-106			
Indeno (1,2,3-cd) pyrene	79.1	2.49	10.0	"	100		79.1	17.7-123			CC-03
2-Methylnaphthalene	66.5	2.11	10.0	"	100		66.5	32.5-100			
2-Methylphenol	47.8	1.78	10.0	"	100		47.8	26.5-100			
3 & 4-Methylphenol	86.5	1.73	10.0	"	200		43.3	21.3-100			
Naphthalene	60.7	1.95	10.0	"	100		60.7	10-115			
Pentachlorophenol	81.4	2.98	10.0	"	100		81.4	25.8-110			
Phenanthrene	79.8	2.44	10.0	"	100		79.8	21.2-119			
Pyrene	80.7	2.93	10.0	"	100		80.7	10-129			
2,4,6-Trichlorophenol	71.6	1.96	10.0	"	100		71.6	41.3-100			
Surrogate: 2,4,6-Tribromophenol	*122*			"	*100*		*122*	*24.2-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*31.5*			"	*50.0*		*63.1*	*17.3-101*			
Surrogate: 2-Fluorophenol	*37.3*			"	*100*		*37.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*33.2*			"	*50.0*		*66.5*	*10-111*			
Surrogate: Phenol-d5	*26.2*			"	*100*		*26.2*	*10.8-100*			
Surrogate: Terphenyl-dl4	*39.9*			"	*50.0*		*79.7*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J10031 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (3J10031-BSD1)											
Acenaphthene	77.3	1.85	10.0	ug/L	100		77.3	28.1-100	5.06	40	
Acenaphthylene	90.9	2.20	10.0	"	100		90.9	30.5-105	6.58	40	
Anthracene	78.6	2.20	10.0	"	100		78.6	34.1-100	2.10	40	
Benzo (a) anthracene	72.4	2.34	10.0	"	100		72.4	34.3-107	1.74	40	
Benzo (b) fluoranthene	69.8	2.46	10.0	"	100		69.8	32.6-101	0.430	40	
Benzo (k) fluoranthene	83.4	2.91	10.0	"	100		83.4	27-104	10.6	40	
Benzo (a) pyrene	71.8	2.63	10.0	"	100		71.8	31.7-100	1.15	40	
Bis(2-ethylhexyl)phthalate	66.5	3.06	10.0	"	100		66.5	10-146	15.8	40	
Carbazole	105	3.34	10.0	"	100		105	10-147	12.6	40	
4-Chloro-3-methylphenol	72.6	2.37	10.0	"	100		72.6	34.8-101	6.76	40	
Chrysene	70.8	2.26	10.0	"	100		70.8	35.2-105	2.70	40	
Dibenz (a,h) anthracene	67.8	1.41	10.0	"	100		67.8	25.9-116	13.0	40	CC-03
Dibenzofuran	75.7	2.07	10.0	"	100		75.7	37.3-100	4.58	40	
2,4-Dimethylphenol	71.2	1.26	10.0	"	100		71.2	30.1-100	4.35	40	
2,4-Dinitrophenol	121	2.62	10.0	"	100		121	11-124	18.1	40	CC-03
Di-n-octyl phthalate	78.5	3.40	10.0	"	100		78.5	10-136	4.17	40	
Fluoranthene	90.7	2.01	10.0	"	100		90.7	22.5-125	6.07	40	
Fluorene	80.6	2.22	10.0	"	100		80.6	31.2-106	3.37	40	
Indeno (1,2,3-cd) pyrene	68.3	2.49	10.0	"	100		68.3	17.7-123	14.6	40	CC-03
2-Methylnaphthalene	76.1	2.11	10.0	"	100		76.1	32.5-100	13.5	40	
2-Methylphenol	53.7	1.78	10.0	"	100		53.7	26.5-100	11.6	40	
3 & 4-Methylphenol	101	1.73	10.0	"	200		50.7	21.3-100	15.9	40	
Naphthalene	72.3	1.95	10.0	"	100		72.3	10-115	17.5	40	
Pentachlorophenol	87.9	2.98	10.0	"	100		87.9	25.8-110	7.76	40	
Phenanthrene	80.3	2.44	10.0	"	100		80.3	21.2-119	0.612	40	
Pyrene	64.6	2.93	10.0	"	100		64.6	10-129	22.1	40	
2,4,6-Trichlorophenol	78.7	1.96	10.0	"	100		78.7	41.3-100	9.41	40	
Surrogate: 2,4,6-Tribromophenol	*138*			"	*100*		*138*	*24.2-130*			*CC-04*
Surrogate: 2-Fluorobiphenyl	*35.8*			"	*50.0*		*71.5*	*17.3-101*			
Surrogate: 2-Fluorophenol	*44.1*			"	*100*		*44.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*37.7*			"	*50.0*		*75.5*	*10-111*			
Surrogate: Phenol-d5	*31.9*			"	*100*		*31.9*	*10.8-100*			
Surrogate: Terphenyl-dl4	*28.7*			"	*50.0*		*57.5*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Semivolatile Organic Compounds by SW-846 Method 8270 - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J10031 - EPA 3510C DCN 4000 Rev 12											
Duplicate (3J10031-DUP1)			**Source: 2310154-01**								
Acenaphthene	138	1.90	10.3	ug/L		125			9.64	45	
Acenaphthylene	ND	2.26	10.3	"		ND				45	
Anthracene	ND	2.26	10.3	"		ND				45	
Benzo (a) anthracene	ND	2.40	10.3	"		ND				45	
Benzo (b) fluoranthene	ND	2.52	10.3	"		ND				45	
Benzo (k) fluoranthene	ND	2.98	10.3	"		ND				45	
Benzo (a) pyrene	ND	2.69	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	3.14	10.3	"		ND				45	
Carbazole	153	3.43	10.3	"		154			0.828	45	
4-Chloro-3-methylphenol	ND	2.43	10.3	"		ND				45	
Chrysene	ND	2.32	10.3	"		ND				45	
Dibenz (a,h) anthracene	ND	1.45	10.3	"		ND				45	CC-01
Dibenzofuran	46.6	2.12	10.3	"		43.5			7.03	45	
2,4-Dimethylphenol	ND	1.29	10.3	"		ND				45	
2,4-Dinitrophenol	ND	2.69	10.3	"		ND				45	CC-01
Di-n-octyl phthalate	ND	3.49	10.3	"		ND				45	
Fluoranthene	ND	2.06	10.3	"		ND				45	
Fluorene	46.9	2.28	10.3	"		45.7			2.57	45	
Indeno (1,2,3-cd) pyrene	ND	2.55	10.3	"		ND				45	CC-01
2-Methylnaphthalene	91.6	2.16	10.3	"		78.9			15.0	45	
2-Methylphenol	ND	1.83	10.3	"		ND				45	
3 & 4-Methylphenol	ND	1.77	10.3	"		ND				45	
Naphthalene	471	20.0	103	"		380			21.4	45	
Pentachlorophenol	75.7	30.6	103	"		124			48.5	45	P3
Phenanthrene	38.8	2.50	10.3	"		39.1			0.658	45	
Pyrene	ND	3.01	10.3	"		ND				45	
2,4,6-Trichlorophenol	ND	2.01	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*102*			"	*103*		*99.0*	*24.2-130*			*CC-03*
Surrogate: 2-Fluorobiphenyl	*25.5*			"	*51.3*		*49.7*	*17.3-101*			
Surrogate: 2-Fluorophenol	*23.4*			"	*103*		*22.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*21.6*			"	*51.3*		*42.1*	*10-111*			
Surrogate: Phenol-d5	*19.1*			"	*103*		*18.6*	*10.8-100*			
Surrogate: Terphenyl-dl4	*15.6*			"	*51.3*		*30.5*	*10-102*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J12008 - EPA 5030B											
Blank (3J12008-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*52.0*			"	*50.0*		*104*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*			"	*50.0*		*102*	*80.6-115*			
Surrogate: Toluene-d8	*55.8*			"	*50.0*		*112*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*47.4*			"	*50.0*		*94.7*	*76.7-123*			
LCS (3J12008-BS1)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.5	62.8-141			
Ethylbenzene	18.9	0.190	5.00	"	20.0		94.3	66.9-139			
Surrogate: Dibromofluoromethane	*52.5*			"	*50.0*		*105*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*49.3*			"	*50.0*		*98.6*	*80.6-115*			
Surrogate: Toluene-d8	*55.0*			"	*50.0*		*110*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*46.9*			"	*50.0*		*93.7*	*76.7-123*			
LCS Dup (3J12008-BSD1)											
Benzene	21.4	0.258	5.00	ug/L	20.0		107	62.8-141	7.22	30	
Ethylbenzene	19.8	0.190	5.00	"	20.0		98.9	66.9-139	4.81	30	
Surrogate: Dibromofluoromethane	*53.1*			"	*50.0*		*106*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.2*			"	*50.0*		*100*	*80.6-115*			
Surrogate: Toluene-d8	*52.9*			"	*50.0*		*106*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*48.4*			"	*50.0*		*96.9*	*76.7-123*			
Matrix Spike (3J12008-MS1)		**Source: 2310115-01**									
Benzene	21.6	0.258	5.00	ug/L	20.0	ND	108	60.9-154			
Ethylbenzene	19.4	0.190	5.00	"	20.0	ND	97.1	67.7-144			
Surrogate: Dibromofluoromethane	*53.8*			"	*50.0*		*108*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.7*			"	*50.0*		*101*	*80.6-115*			
Surrogate: Toluene-d8	*52.9*			"	*50.0*		*106*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.7*	*76.7-123*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 3J12008 - EPA 5030B											
Matrix Spike Dup (3J12008-MSD1)		**Source: 2310115-01**									
Benzene	21.2	0.258	5.00	ug/L	20.0	ND	106	60.9-154	1.63	35	
Ethylbenzene	19.5	0.190	5.00	"	20.0	ND	97.6	67.7-144	0.565	35	
Surrogate: Dibromofluoromethane	*53.4*			"	*50.0*		*107*	*73.6-118*			
Surrogate: 1,2-Dichloroethane-d4	*50.8*			"	*50.0*		*102*	*80.6-115*			
Surrogate: Toluene-d8	*53.3*			"	*50.0*		*107*	*70.8-125*			
Surrogate: 4-Bromofluorobenzene	*49.2*			"	*50.0*		*98.3*	*76.7-123*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chloroethylvinyl ether	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02
1,2-Dichloroethene (total)	C01,C02
1,3-Dichloropropene (total)	C01,C02
Xylenes (total)	C01

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Benzo (k) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
10/19/2023 13:34

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 10/19/2023 13:34

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
1-Methylnaphthalene	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 10/19/2023 13:34

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2024*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2024*
C03	*MS Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2023*
C04	*MS Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2023*
C05	*MS DEQ Lead Firm Certification*	*PBF-00000028*	*03/31/2024*
C06	*MSDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/09/2024*
C07	*MSDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/10/2024*
C08	*MSDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MSDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/10/2024*
C10	*ADEM (Drinking Water Microbiology)*	*43500*	*12/31/2023*
C11	*ADEM (Drinking Water Chemistry)*	*43500*	*12/31/2023*
C14	*MSDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*02/07/2024*
C15	*MSDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*02/07/2024*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project:	Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number:	3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager:	Ethan Allen	10/19/2023 13:34

Analyst Initials Key

FullName	Initials
Alexandria S Windham	ASW
Brett S Fore	BSF
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2310145

Company Name: CAVENHAM FOREST IND.
Address: P.O BOX 15369
City: HATTIESBURG State: MS Zip: 30404
Phone: 601-544-3674
Fax: 601-544-0504

Project Manager: ETHAN ALLEN
Purchase Order #:
Email Address : EALLEN@ENV-MGT.COM
Sampler Name Printed: JEFF GONSOULIN
Sampler Name Signed:

Project Name: MOBILE CFI 3RD QTR 2023
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days

- [x] Normal
- [ ] Next Day*
- [ ] 2nd Day*
- [ ] Other*_____

*All rush order requests must be prior approved.

- [ ] Phone
- [ ] Mail
- [ ] Fax
- [ ] Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	METALS	AMMONIA	BNA	VOA
Preservative:											
RC-2	10-5-23/ 9:00	W	7	G	X	X	X	X	X	X	X
RC-3	10-5-23/ 9:45	W	7	G	X	X	X	X	X	X	X
E-1	10-5-23/ 11:00	W	9	G	X	X	X	X	X	X	X
RW-4	10-5-23/ 10:40	W	9	G	X	X	X	X	X	X	X
RW-5	10-5-23/ 11:30	W	13	G	X	X	X	X	X	X	X
TBV#7263	10-5-23/ 9:00	W	2W	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: (Y) N Thermometer# 5 Cooler # 8 **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample _____ Blank X Cooler _____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	10/5/23	14.50
Received by	Sarah Tomek	Sarah Tomek	MM	10/5/23	1450
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 1.3°c
client cooler #2 4.5°c

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2203449

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 03/24/2022 08:00. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-2	2203449-01	Water	03/23/2022 17:16	*Jeff Gonsoulin*	03/24/2022 08:00
Mobile/RC-1	2203449-02	Water	03/23/2022 19:50	*Jeff Gonsoulin*	03/24/2022 08:00
Mobile/RC-1A	2203449-03	Water	03/23/2022 20:00	*Jeff Gonsoulin*	03/24/2022 08:00
Trip Blank TBV#6906	2203449-04	Water	03/23/2022 17:16	*Micro Methods*	03/24/2022 08:00

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Sample Receipt Conditions

Date/Time Received: 3/24/2022 8:00:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/24/2022 9:05:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.9 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives above the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

Total Metals-EPA 200.8 Rev 5.4

Qualifiers:

IS-05 The internal standard(s) was below the acceptable criteria range. QC results within acceptable limits.

Chromium [He]
2C28024-MS1

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol
2C24009-MSD1

L1 LCS and/or LCSD Recovery Limit exceeded.

Pentachlorophenol
2C30032-BS1

L2 LCS and/or LCSD Recovery below acceptance limit.

Benzo (b) fluoranthene
2C24009-BS1

M3 MS/MSD Precision Limit exceeded.

2,4-Dinitrophenol, 3 & 4-Methylphenol
2C24009-MSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene
2C24009-MS1, 2C30033-MS1, 2C24009-MSD1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

2-Methylnaphthalene, Acenaphthene, Benzo (a) anthracene, Bis(2-ethylhexyl)phthalate, Naphthalene, Phenanthrene
2C30033-DUP1, 2C30032-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

2-Fluorobiphenyl, Terphenyl-dl4

2203449-01[Mobile/RW-2], 2C30033-BSD1

Ammonia as N-Lachat 10-107-06-1-I

Qualifiers:

RPD04 The RPD between the sample and sample duplicate exceeded the acceptance limits.

Ammonia as N

2C25009-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2203449-01[Mobile/RW-2], 2203449-02[Mobile/RC-1], 2203449-03[Mobile/RC-1A], 2C24014-DUP1, 2C24014-DUP2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Mobile/RW-2

2203449-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2C30033	CRLV	03/30/2022 11:08	04/13/2022 11:42	EPA 8270D	
2-Methylnaphthalene	**0.06**	0.05	0.05	"	"	"	CRLV	"	"	"	
Phenanthrene	**34.7**	1.56	6.12	"	100.0	"	CRLV	"	04/15/2022 05:47	"	
Anthracene	**15.3**	1.56	6.12	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.90**	0.02	0.06	"	1.0	"	CRLV	"	04/13/2022 11:42	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0204	*10.0 %*	*11.7-131*	"	CRLV	"	"	"	*SR06*
Nitrobenzene-d5	0.0306	*15.0 %*	*11-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.133	*65.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**39.0**	0.189	1.00	mg/L	2.0	2C25004	DLW	03/24/2022 09:39	03/24/2022 16:16	SM 4110B 2011	
Nitrate as N	ND	0.039	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**0.62**	0.03	0.21	"	1.0	2C25009	CRG	03/24/2022 16:00	03/25/2022 09:22	Lachat 10-107-06-1-I	
pH	**6.00**			pH Units	"	2C24014	CRG	03/24/2022 11:10	03/24/2022 11:10	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**320**			umhos/cm @25.0 C	"	2C29026	SSK	03/29/2022 08:20	03/29/2022 08:20	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00333**	0.00021	0.00200	mg/L	1.0	2C28024	CLB	03/28/2022 09:30	03/28/2022 17:42	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	**0.00305**	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Mobile/RW-2

2203449-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**15.8**	0.17	1.10	ug/L	1.0	2C30032	CRLV	03/30/2022 09:12	04/05/2022 10:24	EPA 8270D	
Acenaphthylene	**2.53**	0.11	1.18	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**1.52**	0.19	0.94	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**1.72**	0.19	1.46	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**1.17**	0.17	0.87	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	"	"	"	CRLV	"	04/04/2022 12:37	"	
Carbazole	**5.93**	2.68	5.11	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.69	"	"	"	CRLV	"	04/05/2022 10:24	"	
Chrysene	**1.34**	0.16	0.91	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.25	1.82	"	"	"	CRLV	"	"	"	
Dibenzofuran	**1.08**	0.41	1.02	"	"	"	CRLV	"	04/04/2022 12:37	"	
2,4-Dimethylphenol	ND	0.19	1.07	"	"	"	CRLV	"	04/05/2022 10:24	"	
2,4-Dinitrophenol	ND	1.32	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.29	1.74	"	"	"	CRLV	"	"	"	
Fluoranthene	**20.1**	0.21	1.53	"	"	"	CRLV	"	"	"	
Fluorene	**1.41**	0.16	1.22	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.25	1.66	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	04/04/2022 12:37	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	04/05/2022 10:24	"	
Pentachlorophenol	ND	0.06	1.02	"	"	"	CRLV	"	"	"	
Pyrene	**14.4**	0.22	0.59	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	04/04/2022 12:37	"	
1-Methylnaphthalene	ND	0.05	1.31	"	"	"	CRLV	"	04/05/2022 10:24	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.06	*59.3 %*	*0-200*	"	CRLV	"	*04/04/2022 12:37*	"	
2-Fluorobiphenyl	1.95	*38.2 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.48	*24.3 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.61	*31.6 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.94	*19.0 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	1.69	*33.0 %*	*28.8-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 15:53	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

Mobile/RW-2

2203449-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.8	*93.6 %*	*83.9-122*	*2C31019*	BSF	*03/30/2022 08:00*	"	"	
1,2-Dichloroethane-d4	48.7	*97.4 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	49.1	*98.1 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.6	*103 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Mobile/RC-1

2203449-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**196**	0.946	5.00	mg/L	10.0	2C25004	DLW	03/24/2022 09:39	03/28/2022 11:15	SM 4110B 2011	
Nitrate as N	**7.53**	0.197	5.00	"	"	"	DLW	"	"	"	
Ammonia as N	**6.28**	0.03	0.21	"	1.0	2C25009	CRG	03/24/2022 16:00	03/25/2022 09:23	Lachat 10-107-06-1-I	
pH	**6.40**			pH Units	"	2C24014	CRG	03/24/2022 11:12	03/24/2022 11:12	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1070**			umhos/cm @25.0 C	"	2C29026	SSK	03/29/2022 08:23	03/29/2022 08:23	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2C28024	CLB	03/28/2022 09:30	03/28/2022 18:01	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Mobile/RC-1

2203449-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**515**	11.7	104	ug/L	10.0	2C24009	CRLV	03/24/2022 10:21	03/29/2022 19:16	EPA 8270D	
Acenaphthylene	ND	2.29	10.4	"	1.0	"	CRLV	"	03/25/2022 22:33	"	
Anthracene	**13.8**	2.29	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	2.43	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.56	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	3.02	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.73	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.18	10.4	"	"	"	CRLV	"	"	"	
Carbazole	**717**	9.32	104	"	10.0	"	CRLV	"	03/29/2022 19:16	"	
4-Chloro-3-methylphenol	ND	10.8	104	"	"	"	CRLV	"	"	"	
Chrysene	ND	2.35	10.4	"	1.0	"	CRLV	"	03/25/2022 22:33	"	
Dibenz (a,h) anthracene	ND	1.47	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	**97.7**	2.15	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**734**	8.74	104	"	10.0	"	CRLV	"	03/29/2022 19:16	"	
2,4-Dinitrophenol	ND	2.72	10.4	"	1.0	"	CRLV	"	03/25/2022 22:33	"	
Di-n-octyl phthalate	ND	3.53	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	**22.5**	2.09	10.4	"	"	"	CRLV	"	"	"	
Fluorene	**103**	2.31	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.59	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**598**	11.6	104	"	10.0	"	CRLV	"	03/29/2022 19:16	"	
2-Methylphenol	ND	1.85	10.4	"	1.0	"	CRLV	"	03/25/2022 22:33	"	
3 & 4-Methylphenol	**18.8**	1.80	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	**10300**	113	1040	"	100.0	"	CRLV	"	03/30/2022 18:25	"	
Pentachlorophenol	ND	3.10	10.4	"	1.0	"	CRLV	"	03/25/2022 22:33	"	
Phenanthrene	**105**	2.54	10.4	"	"	"	CRLV	"	"	"	
Pyrene	**14.9**	3.05	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.04	10.4	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	55.9	*53.8 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	25.4	*48.9 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	27.1	*26.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	49.6	*95.4 %*	*10-100*	"	CRLV	"	*03/29/2022 19:16*	"	
Phenol-d5	23.0	*22.1 %*	*10-112*	"	CRLV	"	*03/25/2022 22:33*	"	
Terphenyl-dl4	18.6	*35.9 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

Mobile/RC-1

2203449-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**12.8**	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 16:17	EPA 8260D	
Ethylbenzene	**49.6**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.7	*95.4 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.7	*93.3 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.4	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.9	*106 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Mobile/RC-1A

2203449-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**136**	0.946	5.00	mg/L	10.0	2C25004	DLW	03/24/2022 09:39	03/25/2022 10:57	SM 4110B 2011	
Nitrate as N	**7.44**	0.197	5.00	"	"	"	DLW	"	"	"	
Ammonia as N	**1.42**	0.03	0.21	"	1.0	2C25009	CRG	03/24/2022 16:00	03/25/2022 09:25	Lachat 10-107-06-1-I	
pH	**6.27**			pH Units	"	2C24014	CRG	03/24/2022 11:14	03/24/2022 11:14	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**671**			umhos/cm @25.0 C	"	2C29026	SSK	03/29/2022 08:26	03/29/2022 08:26	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2C28024	CLB	03/28/2022 09:30	03/28/2022 18:07	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Mobile/RC-1A

2203449-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**452**	11.7	103	ug/L	10.0	2C24009	CRLV	03/24/2022 10:21	03/29/2022 19:50	EPA 8270D	
Acenaphthylene	ND	2.28	10.3	"	1.0	"	CRLV	"	03/25/2022 21:57	"	
Anthracene	ND	2.28	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	2.42	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	2.54	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	3.01	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	2.71	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	3.16	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**863**	9.28	103	"	10.0	"	CRLV	"	03/29/2022 19:50	"	
4-Chloro-3-methylphenol	ND	2.45	10.3	"	1.0	"	CRLV	"	03/25/2022 21:57	"	
Chrysene	ND	2.34	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	1.46	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**80.5**	2.14	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	1.30	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	2.71	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	3.52	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	2.08	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**80.4**	2.30	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	2.57	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**64.0**	2.18	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	1.84	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.79	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**3720**	113	1030	"	100.0	"	CRLV	"	03/30/2022 17:51	"	
Pentachlorophenol	ND	3.08	10.3	"	1.0	"	CRLV	"	03/25/2022 21:57	"	
Phenanthrene	**58.1**	2.52	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	3.03	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.03	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	61.0	*59.0 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	23.1	*44.7 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	21.8	*21.1 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	33.6	*64.9 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	22.4	*21.7 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	16.8	*32.4 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Mobile/RC-1A

2203449-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**5.92**	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 16:41	EPA 8260D	
Ethylbenzene	**28.2**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.0	*94.0 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.5	*97.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	49.6	*99.2 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.5	*103 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Trip Blank TBV#6906

2203449-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 17:53	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.7	*95.4 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.3	*96.5 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	50.6	*101 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.8	*99.6 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
Blank (2C30033-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0500*			"	*0.200*		*25.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.140*			"	*0.200*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
LCS (2C30033-BS1)											
Naphthalene	0.13	0.02	0.05	ug/L	0.200		65.0	10-145			
2-Methylnaphthalene	0.16	0.05	0.05	"	0.200		80.0	50-150			
Acenaphthylene	0.12	0.01	0.06	"	0.200		60.0	10-147			
Acenaphthene	0.14	0.02	0.05	"	0.200		70.0	10-143			
Fluorene	0.16	0.02	0.12	"	0.200		80.0	10-150			
Phenanthrene	0.19	0.02	0.06	"	0.200		95.0	10-151			
Anthracene	0.16	0.02	0.06	"	0.200		80.0	10-130			
Fluoranthene	0.16	0.03	0.06	"	0.200		80.0	10-155			
Pyrene	0.17	0.02	0.05	"	0.200		85.0	10-148			
Benzo (a) anthracene	0.12	0.02	0.06	"	0.200		60.0	38.5-141			
Chrysene	0.13	0.03	0.05	"	0.200		65.0	45.4-150			
Benzo (b) fluoranthene	0.13	0.03	0.05	"	0.200		65.0	33.6-160			
Benzo (k) fluoranthene	0.12	0.02	0.05	"	0.200		60.0	33-159			
Benzo (a) pyrene	0.10	0.02	0.06	"	0.200		50.0	10-177			
Indeno (1,2,3-cd) pyrene	0.05	0.02	0.17	"	0.200		25.0	10.7-171			
Dibenz (a,h) anthracene	0.05	0.04	0.16	"	0.200		25.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0500*			"	*0.200*		*25.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2C30033-BSD1)											
Naphthalene	0.18	0.02	0.05	ug/L	0.200		90.0	10-145	32.3	40	
2-Methylnaphthalene	0.21	0.05	0.05	"	0.200		105	50-150	27.0	40	
Acenaphthylene	0.16	0.01	0.06	"	0.200		80.0	10-147	28.6	40	
Acenaphthene	0.18	0.02	0.05	"	0.200		90.0	10-143	25.0	40	
Fluorene	0.21	0.02	0.12	"	0.200		105	10-150	27.0	40	
Phenanthrene	0.27	0.02	0.06	"	0.200		135	10-151	34.8	40	
Anthracene	0.22	0.02	0.06	"	0.200		110	10-130	31.6	40	
Fluoranthene	0.22	0.03	0.06	"	0.200		110	10-155	31.6	40	
Pyrene	0.21	0.02	0.05	"	0.200		105	10-148	21.1	40	
Benzo (a) anthracene	0.17	0.02	0.06	"	0.200		85.0	38.5-141	34.5	40	
Chrysene	0.17	0.03	0.05	"	0.200		85.0	45.4-150	26.7	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	32.3	40	
Benzo (k) fluoranthene	0.15	0.02	0.05	"	0.200		75.0	33-159	22.2	40	
Benzo (a) pyrene	0.13	0.02	0.06	"	0.200		65.0	10-177	26.1	40	
Indeno (1,2,3-cd) pyrene	0.07	0.02	0.17	"	0.200		35.0	10.7-171	33.3	40	
Dibenz (a,h) anthracene	0.07	0.04	0.16	"	0.200		35.0	16-164	33.3	40	
Surrogate: 2-Fluorobiphenyl	*0.180*			"	*0.200*		*90.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.150*			"	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.380*			"	*0.200*		*190*	*11.3-148*			*SR06*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2C30033-DUP1)			**Source: 2203513-03**								
Naphthalene	0.77	0.02	0.05	ug/L		0.47			48.0	45	P3
2-Methylnaphthalene	1.45	0.52	0.52	"		ND			123	45	P3
Acenaphthylene	0.38	0.01	0.06	"		0.33			13.7	45	
Acenaphthene	9.30	2.24	5.17	"		3.74			85.3	45	P3
Fluorene	3.51	0.17	1.24	"		2.32			40.8	45	
Phenanthrene	8.26	1.58	6.20	"		2.83			98.0	45	P3
Anthracene	0.98	0.02	0.06	"		0.87			12.2	45	
Fluoranthene	8.26	2.65	6.20	"		8.08			2.25	45	
Pyrene	2.48	0.17	0.52	"		2.53			1.83	45	
Benzo (a) anthracene	2.79	0.26	0.62	"		3.54			23.6	45	
Chrysene	5.17	3.09	5.17	"		5.05			2.25	45	
Benzo (b) fluoranthene	12.4	2.65	5.17	"		14.1			13.1	45	
Benzo (k) fluoranthene	6.20	2.55	5.17	"		7.07			13.1	45	
Benzo (a) pyrene	2.07	0.22	0.62	"		2.63			23.9	45	
Indeno (1,2,3-cd) pyrene	0.43	0.03	0.18	"		0.53			19.1	45	
Dibenz (a,h) anthracene	0.13	0.04	0.17	"		0.16			18.5	45	
Surrogate: 2-Fluorobiphenyl	*0.0517*			"	*0.207*		*25.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0517*			"	*0.207*		*25.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.145*			"	*0.207*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2C30033-MS1)		**Source: 2203513-03**									
Naphthalene	0.23	0.02	0.05	ug/L	0.203	0.47	NR	10-182			M5
2-Methylnaphthalene	ND	0.51	0.51	"	0.203	ND		0-200			
Acenaphthylene	4.05	1.21	6.08	"	0.203	ND	NR	10-200			M5
Acenaphthene	6.08	2.20	5.07	"	0.203	3.74	NR	10-200			M5
Fluorene	3.04	1.70	12.2	"	0.203	2.32	353	10-200			M5
Phenanthrene	8.11	1.55	6.08	"	0.203	2.83	NR	46.3-156			M5
Anthracene	6.08	1.55	6.08	"	0.203	ND	NR	12.9-149			M5
Fluoranthene	42.6	2.60	6.08	"	0.203	8.08	NR	10-200			M5
Pyrene	20.3	1.70	5.07	"	0.203	2.53	NR	10-191			M5
Benzo (a) anthracene	45.6	2.50	6.08	"	0.203	3.54	NR	19.3-191			M5
Chrysene	45.6	3.03	5.07	"	0.203	5.05	NR	16.5-166			M5
Benzo (b) fluoranthene	83.1	2.60	5.07	"	0.203	14.1	NR	17.3-163			M5
Benzo (k) fluoranthene	35.5	2.50	5.07	"	0.203	7.07	NR	23.7-152			M5
Benzo (a) pyrene	34.4	2.20	6.08	"	0.203	2.63	NR	10-200			M5
Indeno (1,2,3-cd) pyrene	7.09	2.50	17.2	"	0.203	ND	NR	10-189			M5
Dibenz (a,h) anthracene	1.32	0.35	1.62	"	0.203	ND	650	51.1-147			M5
Surrogate: 2-Fluorobiphenyl	*0.0608*			"	*0.203*		*30.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0608*			"	*0.203*		*30.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.284*			"	*0.203*		*140*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C24014 - Default Prep GenChem											
Duplicate (2C24014-DUP1)		**Source: 2203439-01**									
pH	6.79			pH Units		6.81			0.294	5	HT-02
Duplicate (2C24014-DUP2)		**Source: 2203450-03**									
pH	8.54			pH Units		8.49			0.587	5	HT-02
Batch 2C25004 - Default Prep GenChem											
Blank (2C25004-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2C25004-BLK2)											
Chloride	ND	0.095	0.500	mg/L							
LCS (2C25004-BS1)											
Chloride	10.2	0.095	0.500	mg/L	10.0		102	86.3-109			
Nitrate as N	2.33	0.020	0.500	"	2.26		103	81.7-111			
LCS (2C25004-BS2)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
LCS Dup (2C25004-BSD1)											
Chloride	10.2	0.095	0.500	mg/L	10.0		102	86.3-109	0.216	20	
Nitrate as N	2.37	0.020	0.500	"	2.26		105	81.7-111	1.70	20	
LCS Dup (2C25004-BSD2)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109	0.135	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C25004 - Default Prep GenChem											
Duplicate (2C25004-DUP1)			**Source: 2203449-01**								
Chloride	40.5	0.189	1.00	mg/L		39.0			3.87	20	
Nitrate as N	0.616	0.039	1.00	"		0.580			6.02	20	
Matrix Spike (2C25004-MS1)			**Source: 2203449-01**								
Chloride	28.1			mg/L	10.0	19.5	86.6	76.2-122			
Nitrate as N	2.08			"	2.26	0.290	79.2	60.8-130			
Matrix Spike Dup (2C25004-MSD1)			**Source: 2203449-01**								
Chloride	28.1			mg/L	10.0	19.5	86.0	76.2-122	0.199	20	
Nitrate as N	2.05			"	2.26	0.290	77.8	60.8-130	1.55	20	
Batch 2C25009 - Default Prep GenChem											
Blank (2C25009-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2C25009-BS1)											
Ammonia as N	5.10	0.03	0.21	mg/L	5.00		102	90-110			
LCS Dup (2C25009-BSD1)											
Ammonia as N	5.16	0.03	0.21	mg/L	5.00		103	90-110	1.17	10	
Duplicate (2C25009-DUP1)			**Source: 2203449-02**								
Ammonia as N	7.40	0.03	0.21	mg/L		6.28			16.4	10	RPD04
Matrix Spike (2C25009-MS1)			**Source: 2203454-02**								
Ammonia as N	5.03	0.03	0.21	mg/L	5.00	0.04	99.8	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C25009 - Default Prep GenChem											
Matrix Spike Dup (2C25009-MSD1)			**Source: 2203454-02**								
Ammonia as N	4.99	0.03	0.21	mg/L	5.00	0.04	99.0	90-110	0.798	10	
Batch 2C29026 - Default Prep GenChem											
LCS (2C29026-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90-110			
Duplicate (2C29026-DUP1)			**Source: 2203450-03**								
Specific Conductance (EC)	2350			umhos/cm @25.0 C		2380			1.27	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C28024 - EPA 200.2 DCN 1017 Rev 10											
Blank (2C28024-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (2C28024-BS1)											
Arsenic [He]	0.097	0.00021	0.00200	mg/L	0.100		96.8	85-115			
Chromium [He]	0.107	0.00043	0.00100	"	0.100		107	85-115			
Lead [He]	0.099	0.00017	0.00100	"	0.100		98.9	85-115			
Nickel [He]	0.090	0.00016	0.0400	"	0.100		90.4	85-115			
LCS Dup (2C28024-BSD1)											
Arsenic [He]	0.094	0.00021	0.00200	mg/L	0.100		94.1	85-115	2.85	20	
Chromium [He]	0.105	0.00043	0.00100	"	0.100		105	85-115	1.90	20	
Lead [He]	0.098	0.00017	0.00100	"	0.100		97.8	85-115	1.12	20	
Nickel [He]	0.089	0.00016	0.0400	"	0.100		88.9	85-115	1.68	20	
Matrix Spike (2C28024-MS1)			**Source: 2203449-01**								
Arsenic [He]	0.100	0.00021	0.00200	mg/L	0.100	0.003	97.0	70-130			
Chromium [He]	0.104	0.00043	0.00100	"	0.100	ND	104	70-130			IS-05
Lead [He]	0.105	0.00017	0.00100	"	0.100	0.003	102	70-130			
Nickel [He]	0.087	0.00016	0.0400	"	0.100	0.0009	86.3	70-130			
Matrix Spike Dup (2C28024-MSD1)			**Source: 2203449-01**								
Arsenic [He]	0.100	0.00021	0.00200	mg/L	0.100	0.003	96.4	70-130	0.582	20	
Chromium [He]	0.102	0.00043	0.00100	"	0.100	ND	102	70-130	2.05	20	
Lead [He]	0.104	0.00017	0.00100	"	0.100	0.003	101	70-130	1.32	20	
Nickel [He]	0.088	0.00016	0.0400	"	0.100	0.0009	87.6	70-130	1.42	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C24009 - EPA 3510C DCN 4000 Rev 12											
Blank (2C24009-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*53.6*			"	*100*		*53.6*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*25.9*			"	*50.0*		*51.7*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.8*			"	*100*		*29.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*21.7*			"	*50.0*		*43.4*	*10-100*			
Surrogate: Phenol-d5	*22.1*			"	*100*		*22.1*	*10-112*			
Surrogate: Terphenyl-dl4	*18.1*			"	*50.0*		*36.3*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C24009 - EPA 3510C DCN 4000 Rev 12											
LCS (2C24009-BS1)											
Acenaphthene	51.1	1.13	10.0	ug/L	100		51.1	36.1-108			
Acenaphthylene	47.4	1.07	10.0	"	100		47.4	34.6-109			
Anthracene	50.9	0.99	10.0	"	100		50.9	36.4-106			
Benzo (a) anthracene	55.1	0.87	10.0	"	100		55.1	42.9-101			
Benzo (b) fluoranthene	34.3	1.03	10.0	"	100		34.3	43.7-105			L2
Benzo (k) fluoranthene	54.0	1.01	10.0	"	100		54.0	38.1-112			
Benzo (a) pyrene	47.9	0.98	10.0	"	100		47.9	46.5-104			
Bis(2-ethylhexyl)phthalate	56.9	1.14	10.0	"	100		56.9	25.1-113			
Carbazole	52.6	0.90	10.0	"	100		52.6	5.43-162			
4-Chloro-3-methylphenol	56.3	1.04	10.0	"	100		56.3	39.1-106			
Chrysene	44.7	0.92	10.0	"	100		44.7	43.2-103			
Dibenz (a,h) anthracene	35.3	0.67	10.0	"	100		35.3	31-119			
Dibenzofuran	51.2	1.04	10.0	"	100		51.2	37.6-110			
2,4-Dimethylphenol	54.4	0.84	10.0	"	100		54.4	36-100			
2,4-Dinitrophenol	47.6	3.05	10.0	"	100		47.6	10.5-124			
Di-n-octyl phthalate	62.0	1.35	10.0	"	100		62.0	33.6-111			
Fluoranthene	41.3	0.93	10.0	"	100		41.3	26.4-121			
Fluorene	49.8	1.01	10.0	"	100		49.8	36.9-109			
Indeno (1,2,3-cd) pyrene	39.8	0.89	10.0	"	100		39.8	35.6-116			
2-Methylnaphthalene	43.1	1.12	10.0	"	100		43.1	34.3-102			
2-Methylphenol	49.3	0.88	10.0	"	100		49.3	35-101			
3 & 4-Methylphenol	97.0	0.87	10.0	"	200		48.5	29.4-107			
Naphthalene	46.4	1.09	10.0	"	100		46.4	36.8-100			
Pentachlorophenol	59.1	2.72	10.0	"	100		59.1	15.1-115			
Phenanthrene	50.6	0.93	10.0	"	100		50.6	36.4-110			
Pyrene	68.6	1.09	10.0	"	100		68.6	23.9-114			
2,4,6-Trichlorophenol	57.4	2.58	10.0	"	100		57.4	36-104			
Surrogate: 2,4,6-Tribromophenol	*55.2*			"	*100*		*55.2*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*28.0*			"	*50.0*		*56.0*	*16.9-105*			
Surrogate: 2-Fluorophenol	*35.0*			"	*100*		*35.0*	*10-100*			
Surrogate: Nitrobenzene-d5	*28.1*			"	*50.0*		*56.2*	*10-100*			
Surrogate: Phenol-d5	*27.1*			"	*100*		*27.1*	*10-112*			
Surrogate: Terphenyl-dl4	*24.0*			"	*50.0*		*48.0*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C24009 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2C24009-BSD1)											
Acenaphthene	48.2	1.13	10.0	ug/L	100		48.2	36.1-108	5.80	40	
Acenaphthylene	46.3	1.07	10.0	"	100		46.3	34.6-109	2.37	40	
Anthracene	50.6	0.99	10.0	"	100		50.6	36.4-106	0.572	40	
Benzo (a) anthracene	57.1	0.87	10.0	"	100		57.1	42.9-101	3.62	40	
Benzo (b) fluoranthene	48.2	1.03	10.0	"	100		48.2	43.7-105	33.7	40	
Benzo (k) fluoranthene	53.6	1.01	10.0	"	100		53.6	38.1-112	0.781	40	
Benzo (a) pyrene	50.2	0.98	10.0	"	100		50.2	46.5-104	4.63	40	
Bis(2-ethylhexyl)phthalate	54.9	1.14	10.0	"	100		54.9	25.1-113	3.56	40	
Carbazole	58.4	0.90	10.0	"	100		58.4	5.43-162	10.4	40	
4-Chloro-3-methylphenol	60.6	1.04	10.0	"	100		60.6	39.1-106	7.34	40	
Chrysene	47.4	0.92	10.0	"	100		47.4	43.2-103	6.01	40	
Dibenz (a,h) anthracene	40.8	0.67	10.0	"	100		40.8	31-119	14.4	40	
Dibenzofuran	51.9	1.04	10.0	"	100		51.9	37.6-110	1.26	40	
2,4-Dimethylphenol	53.8	0.84	10.0	"	100		53.8	36-100	1.11	40	
2,4-Dinitrophenol	62.3	3.05	10.0	"	100		62.3	10.5-124	26.8	40	
Di-n-octyl phthalate	57.5	1.35	10.0	"	100		57.5	33.6-111	7.43	40	
Fluoranthene	47.3	0.93	10.0	"	100		47.3	26.4-121	13.5	40	
Fluorene	51.0	1.01	10.0	"	100		51.0	36.9-109	2.30	40	
Indeno (1,2,3-cd) pyrene	45.1	0.89	10.0	"	100		45.1	35.6-116	12.5	40	
2-Methylnaphthalene	43.7	1.12	10.0	"	100		43.7	34.3-102	1.41	40	
2-Methylphenol	49.9	0.88	10.0	"	100		49.9	35-101	1.15	40	
3 & 4-Methylphenol	99.0	0.87	10.0	"	200		49.5	29.4-107	2.04	40	
Naphthalene	46.3	1.09	10.0	"	100		46.3	36.8-100	0.259	40	
Pentachlorophenol	72.7	2.72	10.0	"	100		72.7	15.1-115	20.6	40	
Phenanthrene	48.5	0.93	10.0	"	100		48.5	36.4-110	4.32	40	
Pyrene	51.2	1.09	10.0	"	100		51.2	23.9-114	29.1	40	
2,4,6-Trichlorophenol	57.7	2.58	10.0	"	100		57.7	36-104	0.539	40	
Surrogate: 2,4,6-Tribromophenol	*63.3*			"	*100*		*63.3*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*27.3*			"	*50.0*		*54.6*	*16.9-105*			
Surrogate: 2-Fluorophenol	*32.7*			"	*100*		*32.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*27.4*			"	*50.0*		*54.7*	*10-100*			
Surrogate: Phenol-d5	*26.1*			"	*100*		*26.1*	*10-112*			
Surrogate: Terphenyl-dl4	*20.3*			"	*50.0*		*40.6*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C24009 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2C24009-MS1)		**Source: 2203449-03**									
Acenaphthene	610	11.9	105	ug/L	105	452	150	10-121			M5
Acenaphthylene	45.5	1.12	10.5	"	105	ND	43.3	19-110			
Anthracene	54.3	1.04	10.5	"	105	ND	51.7	16.1-116			
Benzo (a) anthracene	52.7	0.91	10.5	"	105	ND	50.2	27.7-107			
Benzo (b) fluoranthene	32.7	1.08	10.5	"	105	ND	31.1	23.3-117			
Benzo (k) fluoranthene	48.0	1.06	10.5	"	105	ND	45.7	20.4-113			
Benzo (a) pyrene	46.1	1.03	10.5	"	105	ND	43.9	34.6-101			
Bis(2-ethylhexyl)phthalate	50.9	1.20	10.5	"	105	ND	48.4	10-108			
Carbazole	1000	9.42	105	"	105	863	133	10-159			
4-Chloro-3-methylphenol	93.2	1.09	10.5	"	105	ND	88.7	19.8-110			
Chrysene	43.2	0.97	10.5	"	105	ND	41.1	25.6-113			
Dibenz (a,h) anthracene	37.6	0.70	10.5	"	105	ND	35.8	15.9-129			
Dibenzofuran	111	1.09	10.5	"	105	80.5	28.7	10-115			
2,4-Dimethylphenol	94.3	0.88	10.5	"	105	ND	89.8	17.2-115			
2,4-Dinitrophenol	28.2	3.20	10.5	"	105	ND	26.8	10-129			
Di-n-octyl phthalate	49.2	1.42	10.5	"	105	ND	46.9	21.1-102			
Fluoranthene	42.0	0.98	10.5	"	105	ND	40.0	15-119			
Fluorene	107	1.06	10.5	"	105	80.4	25.0	10-125			
Indeno (1,2,3-cd) pyrene	42.0	0.93	10.5	"	105	ND	40.0	18.2-129			
2-Methylnaphthalene	116	1.18	10.5	"	105	64.0	49.7	10-117			
2-Methylphenol	42.3	0.92	10.5	"	105	ND	40.3	10-106			
3 & 4-Methylphenol	89.3	0.92	10.5	"	210	1.35	41.9	10-102			
Naphthalene	4060	114	1050	"	105	3720	319	19.6-98.1			M5
Pentachlorophenol	64.7	2.86	10.5	"	105	ND	61.6	10-125			
Phenanthrene	93.5	0.97	10.5	"	105	58.1	33.7	16.9-120			
Pyrene	61.3	1.14	10.5	"	105	ND	58.3	12.3-105			
2,4,6-Trichlorophenol	53.0	2.71	10.5	"	105	ND	50.5	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*53.3*			"	*105*		*50.7*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*25.5*			"	*52.5*		*48.5*	*16.9-105*			
Surrogate: 2-Fluorophenol	*25.6*			"	*105*		*24.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*39.3*			"	*52.5*		*74.9*	*10-100*			
Surrogate: Phenol-d5	*21.8*			"	*105*		*20.8*	*10-112*			
Surrogate: Terphenyl-dl4	*20.3*			"	*52.5*		*38.7*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C24009 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike Dup (2C24009-MSD1)		**Source: 2203449-03**									
Acenaphthene	549	11.7	104	ug/L	104	452	93.9	10-121	10.4	45	
Acenaphthylene	44.8	1.11	10.4	"	104	ND	43.3	19-110	1.44	45	
Anthracene	52.5	1.02	10.4	"	104	ND	50.7	16.1-116	3.26	45	
Benzo (a) anthracene	50.2	0.90	10.4	"	104	ND	48.5	27.7-107	4.86	45	
Benzo (b) fluoranthene	30.2	1.07	10.4	"	104	ND	29.2	23.3-117	7.86	45	
Benzo (k) fluoranthene	46.1	1.05	10.4	"	104	ND	44.5	20.4-113	4.16	45	
Benzo (a) pyrene	44.3	1.01	10.4	"	104	ND	42.8	34.6-101	3.81	45	
Bis(2-ethylhexyl)phthalate	45.3	1.18	10.4	"	104	ND	43.7	10-108	11.7	45	
Carbazole	918	9.29	104	"	104	863	53.0	10-159	8.86	45	
4-Chloro-3-methylphenol	73.1	1.08	10.4	"	104	ND	70.6	19.8-110	24.1	45	
Chrysene	41.7	0.96	10.4	"	104	ND	40.3	25.6-113	3.52	45	
Dibenz (a,h) anthracene	34.2	0.69	10.4	"	104	ND	33.0	15.9-129	9.74	45	
Dibenzofuran	96.9	1.08	10.4	"	104	80.5	15.9	10-115	13.2	45	
2,4-Dimethylphenol	82.3	0.87	10.4	"	104	ND	79.5	17.2-115	13.7	45	
2,4-Dinitrophenol	15.7	3.16	10.4	"	104	ND	15.2	10-129	56.7	45	CC-03, M3
Di-n-octyl phthalate	45.4	1.40	10.4	"	104	ND	43.9	21.1-102	8.07	45	
Fluoranthene	44.6	0.97	10.4	"	104	ND	43.1	15-119	6.17	45	
Fluorene	94.4	1.05	10.4	"	104	80.4	13.5	10-125	12.2	45	
Indeno (1,2,3-cd) pyrene	37.3	0.92	10.4	"	104	ND	36.0	18.2-129	11.8	45	
2-Methylnaphthalene	107	1.16	10.4	"	104	64.0	42.0	10-117	7.75	45	
2-Methylphenol	30.1	0.91	10.4	"	104	ND	29.0	10-106	33.9	45	
3 & 4-Methylphenol	55.7	0.90	10.4	"	207	1.35	26.2	10-102	46.4	45	M3
Naphthalene	4110	113	1040	"	104	3720	375	19.6-98.1	1.30	45	M5
Pentachlorophenol	63.0	2.82	10.4	"	104	ND	60.9	10-125	2.62	45	
Phenanthrene	80.3	0.96	10.4	"	104	58.1	21.4	16.9-120	15.2	45	
Pyrene	47.3	1.13	10.4	"	104	ND	45.7	12.3-105	25.7	45	
2,4,6-Trichlorophenol	49.8	2.67	10.4	"	104	ND	48.1	26.2-104	6.25	45	
Surrogate: 2,4,6-Tribromophenol	*45.0*			"	*104*		*43.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*22.4*			"	*51.8*		*43.4*	*16.9-105*			
Surrogate: 2-Fluorophenol	*28.6*			"	*104*		*27.6*	*10-100*			
Surrogate: Nitrobenzene-d5	*38.8*			"	*51.8*		*75.0*	*10-100*			
Surrogate: Phenol-d5	*22.0*			"	*104*		*21.3*	*10-112*			
Surrogate: Terphenyl-dl4	*15.6*			"	*51.8*		*30.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
Blank (2C30032-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*5.66*			*"*	*10.0*		*56.6*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.15*			*"*	*5.00*		*43.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.65*			*"*	*10.0*		*26.5*	*0-200*			
Surrogate: Nitrobenzene-d5	*1.78*			*"*	*5.00*		*35.6*	*18.4-100*			
Surrogate: Phenol-d5	*1.92*			*"*	*10.0*		*19.2*	*10-126*			
Surrogate: Terphenyl-dl4	*2.12*			*"*	*5.00*		*42.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
LCS (2C30032-BS1)											
Acenaphthene	6.95	0.16	1.08	ug/L	10.0		69.5	21.2-115			
Acenaphthylene	6.70	0.11	1.16	"	10.0		67.0	17.4-116			
Anthracene	9.35	0.13	1.29	"	10.0		93.5	19.4-120			
Benzo (a) anthracene	11.1	0.18	0.92	"	10.0		111	31.6-117			
Benzo (b) fluoranthene	10.6	0.18	1.43	"	10.0		106	24.6-128			
Benzo (k) fluoranthene	9.18	0.17	0.85	"	10.0		91.8	19.5-128			
Benzo (a) pyrene	10.0	0.20	1.25	"	10.0		100	34.2-116			
Bis(2-ethylhexyl)phthalate	10.8	0.37	1.08	"	10.0		108	42.2-130			
Carbazole	9.45	2.62	7.86	"	10.0		94.5	30.1-145			
4-Chloro-3-methylphenol	10.5	0.27	1.65	"	10.0		105	43.1-105			
Chrysene	5.67	0.15	0.89	"	10.0		56.7	42.1-106			
Dibenz (a,h) anthracene	5.15	0.25	1.78	"	10.0		51.5	23.1-136			
Dibenzofuran	7.20	0.40	1.20	"	10.0		72.0	25-127			
2,4-Dimethylphenol	11.4	0.19	1.05	"	10.0		114	31.6-130			
2,4-Dinitrophenol	7.74	1.29	4.32	"	10.0		77.4	22.1-110			
Di-n-octyl phthalate	11.2	0.29	1.70	"	10.0		112	42.9-130			
Fluoranthene	9.62	0.20	1.50	"	10.0		96.2	47.7-104			
Fluorene	7.99	0.16	1.19	"	10.0		79.9	49.1-98.2			
Indeno (1,2,3-cd) pyrene	7.93	0.25	1.63	"	10.0		79.3	27.8-136			
2-Methylnaphthalene	6.11	0.05	1.28	"	10.0		61.1	22.3-108			
2-Methylphenol	6.99	0.41	1.24	"	10.0		69.9	15.8-123			
3 & 4-Methylphenol	14.4	1.13	3.39	"	20.0		72.2	11.1-130			
Naphthalene	5.78	0.15	0.99	"	10.0		57.8	22.1-109			
Pentachlorophenol	13.1	0.06	1.00	"	10.0		131	28.8-130			L1
Phenanthrene	8.82	0.15	1.20	"	10.0		88.2	22.1-115			
Pyrene	10.1	0.22	0.58	"	10.0		101	19-108			
2,4,6-Trichlorophenol	9.63	0.44	1.32	"	10.0		96.3	44.4-104			
1-Methylnaphthalene	5.98	0.05	1.28	"	10.0		59.8	23.7-97.4			
Surrogate: 2,4,6-Tribromophenol	*5.94*			"	*10.0*		*59.4*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*1.94*			"	*5.00*		*38.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.32*			"	*10.0*		*23.2*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.04*			"	*5.00*		*40.8*	*18.4-100*			
Surrogate: Phenol-d5	*1.81*			"	*10.0*		*18.1*	*10-126*			
Surrogate: Terphenyl-dl4	*1.84*			"	*5.00*		*36.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2C30032-BSD1)											
Acenaphthene	7.70	0.16	1.08	ug/L	10.0		77.0	21.2-115	10.2	48	
Acenaphthylene	7.31	0.11	1.16	"	10.0		73.1	17.4-116	8.71	74	
Anthracene	9.04	0.13	1.29	"	10.0		90.4	19.4-120	3.37	66	
Benzo (a) anthracene	10.3	0.18	0.92	"	10.0		103	31.6-117	7.12	53	
Benzo (b) fluoranthene	10.7	0.18	1.43	"	10.0		107	24.6-128	0.751	71	
Benzo (k) fluoranthene	9.15	0.17	0.85	"	10.0		91.5	19.5-128	0.327	63	
Benzo (a) pyrene	10.3	0.20	1.25	"	10.0		103	34.2-116	3.05	72	
Bis(2-ethylhexyl)phthalate	10.9	0.37	1.08	"	10.0		109	42.2-130	1.57	82	
Carbazole	9.27	2.62	7.86	"	10.0		92.7	30.1-145	1.92	40	
4-Chloro-3-methylphenol	11.3	0.27	1.65	"	10.0		113	43.1-130	7.62	73	
Chrysene	4.98	0.15	0.89	"	10.0		49.8	42.1-106	13.0	87	
Dibenz (a,h) anthracene	5.32	0.25	1.78	"	10.0		53.2	23.1-136	3.25	126	
Dibenzofuran	7.82	0.40	1.20	"	10.0		78.2	25-127	8.26	40	
2,4-Dimethylphenol	12.9	0.19	1.05	"	10.0		129	31.6-130	12.7	58	
2,4-Dinitrophenol	10.9	1.29	4.32	"	10.0		109	22.1-110	33.5	132	
Di-n-octyl phthalate	11.6	0.29	1.70	"	10.0		116	42.9-130	3.86	69	
Fluoranthene	8.66	0.20	1.50	"	10.0		86.6	47.7-104	10.5	66	
Fluorene	8.45	0.16	1.19	"	10.0		84.5	49.1-98.2	5.60	38	
Indeno (1,2,3-cd) pyrene	8.24	0.25	1.63	"	10.0		82.4	27.8-136	3.83	99	
2-Methylnaphthalene	6.79	0.05	1.28	"	10.0		67.9	22.3-108	10.5	40	
2-Methylphenol	8.11	0.41	1.24	"	10.0		81.1	15.8-123	14.8	40	
3 & 4-Methylphenol	16.7	1.13	3.39	"	20.0		83.6	11.1-130	14.7	40	
Naphthalene	6.47	0.15	0.99	"	10.0		64.7	22.1-109	11.3	65	
Pentachlorophenol	10.7	0.06	1.00	"	10.0		107	28.8-130	20.7	86	
Phenanthrene	8.59	0.15	1.20	"	10.0		85.9	22.1-115	2.64	39	
Pyrene	10.7	0.22	0.58	"	10.0		107	19-108	5.47	49	
2,4,6-Trichlorophenol	10.1	0.44	1.32	"	10.0		101	44.4-104	4.57	58	
1-Methylnaphthalene	6.71	0.05	1.28	"	10.0		67.1	23.7-97.4	11.5	40	
Surrogate: 2,4,6-Tribromophenol	*6.24*			*"*	*10.0*		*62.4*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.13*			*"*	*5.00*		*42.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.73*			*"*	*10.0*		*27.3*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.28*			*"*	*5.00*		*45.6*	*18.4-100*			
Surrogate: Phenol-d5	*2.16*			*"*	*10.0*		*21.6*	*10-126*			
Surrogate: Terphenyl-dl4	*1.76*			*"*	*5.00*		*35.2*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2C30032-DUP1)			**Source: 2203513-04**								
Acenaphthene	0.91	0.17	1.10	ug/L		3.98			126	45	P3
Acenaphthylene	ND	0.11	1.18	"		ND				45	
Anthracene	ND	0.13	1.32	"		ND				45	
Benzo (a) anthracene	0.49	0.19	0.94	"		0.99			67.8	45	P3
Benzo (b) fluoranthene	1.53	0.19	1.46	"		2.07			29.8	45	
Benzo (k) fluoranthene	1.06	0.17	0.87	"		1.04			1.69	45	
Benzo (a) pyrene	1.31	0.21	1.28	"		1.49			13.0	45	
Bis(2-ethylhexyl)phthalate	1.56	0.37	1.10	"		ND			200	45	P3
Carbazole	ND	2.67	8.02	"		ND				45	
4-Chloro-3-methylphenol	ND	0.28	1.68	"		ND				45	
Chrysene	ND	0.16	0.91	"		ND				45	
Dibenz (a,h) anthracene	ND	0.25	1.82	"		ND				45	
Dibenzofuran	ND	0.41	1.22	"		ND				45	
2,4-Dimethylphenol	ND	0.19	1.07	"		ND				45	
2,4-Dinitrophenol	ND	1.32	4.41	"		ND				45	
Di-n-octyl phthalate	ND	0.29	1.73	"		ND				45	
Fluoranthene	2.63	0.21	1.53	"		2.67			1.23	45	
Fluorene	ND	0.16	1.21	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.25	1.66	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.31	"		ND				45	
2-Methylphenol	ND	0.42	1.27	"		ND				45	
3 & 4-Methylphenol	ND	1.15	3.46	"		ND				45	
Naphthalene	6.53	0.16	1.01	"		ND			200	45	P3
Pentachlorophenol	ND	0.06	1.02	"		ND				45	
Phenanthrene	0.66	0.15	0.61	"		0.38			53.8	45	P3
Pyrene	0.64	0.22	0.59	"		0.85			27.4	45	
2,4,6-Trichlorophenol	ND	0.45	1.35	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.31	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*4.60*			"	*10.2*		*45.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*1.71*			"	*5.10*		*33.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.80*			"	*10.2*		*27.4*	*0-200*			
Surrogate: Nitrobenzene-d5	*1.56*			"	*5.10*		*30.6*	*18.4-100*			
Surrogate: Phenol-d5	*2.29*			"	*10.2*		*22.4*	*10-126*			
Surrogate: Terphenyl-dl4	*1.57*			"	*5.10*		*30.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2C30032-MS1)		**Source: 2203513-04**									
Acenaphthene	6.99	0.17	1.10	ug/L	10.2	3.98	29.5	21-100			
Acenaphthylene	5.73	0.11	1.18	"	10.2	ND	56.1	35.5-100			
Anthracene	6.81	0.13	1.32	"	10.2	ND	66.7	39.6-100			
Benzo (a) anthracene	7.03	0.19	0.94	"	10.2	0.99	59.1	37.9-100			
Benzo (b) fluoranthene	7.54	0.19	1.46	"	10.2	2.07	53.6	34.4-105			
Benzo (k) fluoranthene	7.29	0.17	0.87	"	10.2	1.04	61.2	32.7-100			
Benzo (a) pyrene	7.21	0.21	1.28	"	10.2	1.49	56.0	40.6-100			
Bis(2-ethylhexyl)phthalate	9.10	0.37	1.10	"	10.2	ND	89.1	8-158			
Carbazole	6.19	2.68	8.03	"	10.2	ND	60.6	15.3-151			
4-Chloro-3-methylphenol	7.88	0.28	1.69	"	10.2	ND	77.1	22-147			
Chrysene	6.58	0.16	0.91	"	10.2	ND	64.4	34.8-100			
Dibenz (a,h) anthracene	6.85	0.25	1.82	"	10.2	ND	67.1	10-176			
Dibenzofuran	6.22	0.41	1.23	"	10.2	ND	60.9	38.3-107			
2,4-Dimethylphenol	10.1	0.19	1.07	"	10.2	ND	98.6	32-120			
2,4-Dinitrophenol	8.37	1.32	4.41	"	10.2	ND	81.9	5-191			
Di-n-octyl phthalate	8.20	0.29	1.74	"	10.2	ND	80.3	4-146			
Fluoranthene	7.20	0.21	1.53	"	10.2	2.67	44.4	44.4-100			
Fluorene	6.76	0.16	1.22	"	10.2	ND	66.2	40.1-100			
Indeno (1,2,3-cd) pyrene	6.32	0.25	1.66	"	10.2	ND	61.9	10-173			
2-Methylnaphthalene	5.94	0.05	1.31	"	10.2	ND	58.2	16.6-107			
2-Methylphenol	5.78	0.42	1.27	"	10.2	ND	56.6	7.21-120			
3 & 4-Methylphenol	12.4	1.15	3.46	"	20.4	ND	60.8	8-134			
Naphthalene	10.4	0.16	1.01	"	10.2	ND	102	29.1-130			
Pentachlorophenol	9.26	0.06	1.02	"	10.2	ND	90.7	14-176			
Phenanthrene	6.58	0.15	1.23	"	10.2	0.38	60.7	40.7-100			
Pyrene	7.42	0.22	0.59	"	10.2	0.85	64.3	40.6-100			
2,4,6-Trichlorophenol	5.85	0.45	1.35	"	10.2	ND	57.3	37-144			
1-Methylnaphthalene	5.40	0.05	1.31	"	10.2	ND	52.9	18.5-100			
Surrogate: 2,4,6-Tribromophenol	*6.61*			"	*10.2*		*64.7*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.72*			"	*5.11*		*53.2*	*21.3-100*			
Surrogate: 2-Fluorophenol	*3.17*			"	*10.2*		*31.0*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.77*			"	*5.11*		*54.2*	*18.4-100*			
Surrogate: Phenol-d5	*2.60*			"	*10.2*		*25.5*	*10-126*			
Surrogate: Terphenyl-dl4	*1.78*			"	*5.11*		*34.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C31019 - EPA 5030B											
Blank (2C31019-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*50.2*			"	*50.0*		*100*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*50.9*			"	*50.0*		*102*	*87.4-116*			
Surrogate: Toluene-d8	*50.6*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.0*			"	*50.0*		*100*	*80.4-119*			
LCS (2C31019-BS1)											
Benzene	19.7	0.258	5.00	ug/L	20.0		98.7	64.2-144			
Ethylbenzene	20.4	0.190	5.00	"	20.0		102	64.9-150			
Surrogate: Dibromofluoromethane	*50.6*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.7*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*49.8*			"	*50.0*		*99.6*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.2*			"	*50.0*		*100*	*80.4-119*			
LCS Dup (2C31019-BSD1)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.3	64.2-144	0.556	30	
Ethylbenzene	20.0	0.190	5.00	"	20.0		100	64.9-150	2.08	30	
Surrogate: Dibromofluoromethane	*51.1*			"	*50.0*		*102*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.4*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*49.1*			"	*50.0*		*98.2*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.0*			"	*50.0*		*100*	*80.4-119*			
Matrix Spike (2C31019-MS1)		**Source: 2203449-03**									
Benzene	27.0	0.258	5.00	ug/L	20.0	5.92	105	70-149			
Ethylbenzene	46.1	0.190	5.00	"	20.0	28.2	89.5	70.2-150			
Surrogate: Dibromofluoromethane	*50.0*			"	*50.0*		*100*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*50.3*			"	*50.0*		*101*	*87.4-116*			
Surrogate: Toluene-d8	*51.6*			"	*50.0*		*103*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C31019 - EPA 5030B											
Matrix Spike Dup (2C31019-MSD1)		**Source: 2203449-03**									
Benzene	26.5	0.258	5.00	ug/L	20.0	5.92	103	70-149	1.83	35	
Ethylbenzene	45.1	0.190	5.00	"	20.0	28.2	84.5	70.2-150	2.19	35	
Surrogate: Dibromofluoromethane	*51.1*			"	*50.0*		*102*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*50.5*			"	*50.0*		*101*	*87.4-116*			
Surrogate: Toluene-d8	*51.4*			"	*50.0*		*103*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.3*			"	*50.0*		*101*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 14:33

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 14:33

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Camie Bourne	CLB
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Howard Mitch Spicer	HMS
Sarah E. Tomek	SET
Stella S Kleist	SSK
Steven Tobias	SWT
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2203449

Company Name: CAVENHAM FOREST IND	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
_xNormal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
RW-2	3-23-22/17:16	W	9	G	X	X	X	X	X	X	X
RC-1	3-23-22/19:50	W	7	G	X	X	X	X	X	X	X
per client RG-2A - RC-1A	3-23-22/20:00	W	11	G	X	X	X	X	X	X	X
TBV# 16906	3-23-22/17:16	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: Y N Thermometer# 5 Cooler # Client **Receipt Temp Corrected(°C)** 0.9°C
Date & Time _____ By: _____ Sample____ Blank X Cooler____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3-24-22	8:00
Received by	Sarah Tomek	Sarah Tomek	MM	3/24/22	0800
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2203513

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 03/29/2022 08:12. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/GC-Sump	2203513-01	Water	03/28/2022 10:50	*Jeff Gonsoulin*	03/29/2022 08:12
Mobile/T-2	2203513-02	Water	03/28/2022 11:10	*Jeff Gonsoulin*	03/29/2022 08:12
Mobile/RW-3B	2203513-03	Water	03/28/2022 13:20	*Jeff Gonsoulin*	03/29/2022 08:12
Mobile/RW-1	2203513-04	Water	03/28/2022 09:45	*Jeff Gonsoulin*	03/29/2022 08:12
Trip Blank TBV#6910	2203513-05	Water	03/28/2022 09:45	*Micro Methods*	03/29/2022 08:12

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Sample Receipt Conditions

Date/Time Received: 3/29/2022 8:12:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/29/2022 8:18:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Cooler ID: client cooler #2

Receipt Temperature: -0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:55

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 12/20/2022 11:55

Total Metals-EPA 200.8 Rev 5.4

Qualifiers:

DL-5 Dilution performed due to matrix interference

Chromium [He]
2203513-04[Mobile/RW-1]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

Pyrene
2D04026-BLK1, 2D04026-DUP1

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

Pyrene
2D04026-BS1, 2D04026-BSD1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2-Methylnaphthalene, Acenaphthene, Benzo (a) anthracene, Carbazole, Chrysene, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene
2203513-02[Mobile/T-2], 2C30032-DUP1, 2203513-01[Mobile/GC-Sump], 2C30033-DUP1

L1 LCS and/or LCSD Recovery Limit exceeded.

Pentachlorophenol
2C30032-BS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene
2C30033-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

2-Methylnaphthalene, Acenaphthene, Benzo (a) anthracene, Bis(2-ethylhexyl)phthalate, Naphthalene, Phenanthrene
2C30033-DUP1, 2C30032-DUP1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:55

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

2,4,6-Tribromophenol

2D04026-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Terphenyl-dl4

2C30033-BSD1

Ammonia as N-Lachat 10-107-06-1-I

Qualifiers:

M3 MS/MSD Precision Limit exceeded.

Ammonia as N

2C29033-MSD1

M8 Target recovery is outside of established control limits due to matrix interference.

Ammonia as N

2C29033-MS1, 2C29033-MSD1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:55

Anions-SM 4110B 2011

Qualifiers:

DL-5 Dilution performed due to matrix interference

Nitrate as N

2203513-01[Mobile/GC-Sump]

HT-21 The sample was originally analyzed within the recommended hold time. Due to a QC issue or Result Confirmation the sample was reanalyzed outside the recommended Hold Time.

Nitrate as N

2203513-01[Mobile/GC-Sump], 2203513-02[Mobile/T-2], 2203513-03[Mobile/RW-3B], 2203513-04[Mobile/RW-1]

M2 MS/MSD Recovery below acceptable limit.

Nitrate as N

2C31022-MS1

M3 MS/MSD Precision Limit exceeded.

Nitrate as N

2C31022-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2203513-01[Mobile/GC-Sump], 2203513-02[Mobile/T-2], 2203513-03[Mobile/RW-3B], 2203513-04[Mobile/RW-1], 2C29034-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/GC-Sump

2203513-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**697**	4.73	25.0	mg/L	50.0	2C31022	DLW	03/29/2022 12:07	03/30/2022 22:06	SM 4110B 2011	
Nitrate as N	ND	0.985	25.0	"	"	"	DLW	"	"	"	DL-5, HT-21
Ammonia as N	**47.9**	0.17	1.05	"	5.0	2C29033	CRG	03/29/2022 09:00	03/29/2022 13:28	Lachat 10-107-06-1-I	
pH	**6.27**			pH Units	1.0	2C29034	SSK	03/29/2022 11:40	03/29/2022 11:40	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**2330**			umhos/cm @25.0 C	"	2C29026	SSK	03/29/2022 08:50	03/29/2022 08:50	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**188**	11.4	101	ug/L	10.0	2D04026	CRLV	04/04/2022 08:18	04/09/2022 00:43	EPA 8270D	
Acenaphthylene	ND	1.08	10.1	"	1.0	"	CRLV	"	04/09/2022 03:33	"	
Anthracene	**17.7**	1.00	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.88	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.04	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.02	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.98	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.15	10.1	"	"	"	CRLV	"	"	"	
Carbazole	**84.2**	0.91	10.1	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.05	10.1	"	"	"	CRLV	"	"	"	
Chrysene	**6.68**	0.93	10.1	"	"	"	CRLV	"	"	"	J
Dibenz (a,h) anthracene	**1.64**	0.68	10.1	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**70.4**	1.05	10.1	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**19.7**	0.85	10.1	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.08	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.36	10.1	"	"	"	CRLV	"	"	"	
Fluoranthene	**50.1**	0.94	10.1	"	"	"	CRLV	"	"	"	
Fluorene	**80.6**	1.02	10.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**2.57**	0.89	10.1	"	"	"	CRLV	"	"	"	J
2-Methylnaphthalene	ND	1.13	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	**10.9**	0.89	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.88	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	**27.5**	1.10	10.1	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.74	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	**129**	9.36	101	"	10.0	"	CRLV	"	04/09/2022 00:43	"	
Pyrene	**29.0**	1.10	10.1	"	1.0	"	CRLV	"	04/09/2022 03:33	"	
2,4,6-Trichlorophenol	ND	2.60	10.1	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/GC-Sump

2203513-01 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
2,4,6-Tribromophenol	82.2	*81.5 %*	*16.7-116*			*2D04026*	CRLV	*04/04/2022 08:18*	*04/09/2022 00:43*	"	
2-Fluorobiphenyl	44.3	*87.8 %*	*16.9-105*			"	CRLV	"	*04/09/2022 03:33*	"	
2-Fluorophenol	56.7	*56.1 %*	*10-100*			"	CRLV	"	"	"	
Nitrobenzene-d5	41.5	*82.2 %*	*10-100*			"	CRLV	"	"	"	
Phenol-d5	57.5	*57.0 %*	*10-112*			"	CRLV	"	"	"	
Terphenyl-dl4	35.2	*69.8 %*	*10-105*			"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 18:16	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.9	*95.8 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.2	*98.4 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	51.2	*102 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.2	*100 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/T-2

2203513-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**53.7**	0.378	2.00	mg/L	4.0	2C31022	DLW	03/29/2022 12:07	03/30/2022 23:10	SM 4110B 2011	
Nitrate as N	ND	0.079	2.00	"	"	"	DLW	"	"	"	HT-21
Ammonia as N	**4.55**	0.03	0.21	"	1.0	2C29033	CRG	03/29/2022 09:00	03/29/2022 13:20	Lachat 10-107-06-1-I	
pH	**6.93**			pH Units	"	2C29034	SSK	03/29/2022 11:42	03/29/2022 11:42	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**791**			umhos/cm @25.0 C	"	2C29026	SSK	03/29/2022 08:52	03/29/2022 08:52	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2C31013	CLB	03/31/2022 12:15	04/06/2022 16:16	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00215	0.00500	"	5.0	"	CLB	"	04/06/2022 16:29	"	
Lead [He]	ND	0.00017	0.00100	"	1.0	"	CLB	"	04/06/2022 16:16	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/T-2

2203513-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**224**	11.9	105	ug/L	10.0	2D04026	CRLV	04/04/2022 08:18	04/09/2022 02:59	EPA 8270D	
Acenaphthylene	**14.6**	1.12	10.5	"	1.0	"	CRLV	"	04/05/2022 18:04	"	
Anthracene	**71.3**	1.04	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**93.6**	0.91	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**54.0**	1.08	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**17.1**	1.06	10.5	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**35.4**	1.03	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.20	10.5	"	"	"	CRLV	"	"	"	
Carbazole	**8.76**	0.94	10.5	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	1.09	10.5	"	"	"	CRLV	"	"	"	
Chrysene	**67.4**	0.97	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**5.07**	0.70	10.5	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**59.9**	1.09	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.88	10.5	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.20	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.42	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	**493**	9.81	105	"	10.0	"	CRLV	"	04/09/2022 02:59	"	
Fluorene	**140**	10.6	105	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**13.0**	0.93	10.5	"	1.0	"	CRLV	"	04/05/2022 18:04	"	
2-Methylnaphthalene	**5.96**	1.18	10.5	"	"	"	CRLV	"	"	"	J
2-Methylphenol	ND	0.92	10.5	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.92	10.5	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.14	10.5	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.86	10.5	"	"	"	CRLV	"	"	"	
Phenanthrene	**466**	9.75	105	"	10.0	"	CRLV	"	04/09/2022 02:59	"	
Pyrene	**314**	11.4	105	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.71	10.5	"	1.0	"	CRLV	"	04/05/2022 18:04	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	48.9	*46.6 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	25.3	*48.2 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	29.4	*28.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	20.2	*38.4 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	23.7	*22.6 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	13.6	*26.0 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/T-2

2203513-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 18:40	EPA 8260D	
Ethylbenzene	**8.87**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.4	*96.7 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.2	*98.4 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	50.0	*100 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.8	*102 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/RW-3B

2203513-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**20.7**	0.189	1.00	mg/L	2.0	2C31022	DLW	03/29/2022 12:07	03/30/2022 23:42	SM 4110B 2011	
Nitrate as N	**2.02**	0.039	1.00	"	"	"	DLW	"	"	"	HT-21
Ammonia as N	**0.70**	0.03	0.21	"	1.0	2C29033	CRG	03/29/2022 09:00	03/29/2022 13:29	Lachat 10-107-06-1-I	
pH	**7.13**			pH Units	"	2C29034	SSK	03/29/2022 11:51	03/29/2022 11:51	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**229**			umhos/cm @25.0 C	"	2C29026	SSK	03/29/2022 08:55	03/29/2022 08:55	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00361**	0.00021	0.00200	mg/L	1.0	2C31013	CLB	03/31/2022 12:15	04/06/2022 16:33	EPA 200.8 Rev 5.4	
Chromium [He]	**0.0174**	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	**0.0184**	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/RW-3B

2203513-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**135**	1.66	11.0	ug/L	10.0	2C30032	CRLV	03/30/2022 09:12	04/05/2022 15:44	EPA 8270D	
Acenaphthylene	**1.71**	0.11	1.18	"	1.0	"	CRLV	"	04/05/2022 13:22	"	
Anthracene	**41.5**	1.28	13.1	"	10.0	"	CRLV	"	04/05/2022 15:44	"	
Benzo (a) anthracene	**44.3**	1.87	9.33	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**39.1**	1.86	14.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**9.51**	0.17	0.86	"	1.0	"	CRLV	"	04/05/2022 13:22	"	
Benzo (a) pyrene	**18.9**	0.20	1.27	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	"	"	"	CRLV	"	04/04/2022 15:36	"	
Carbazole	ND	2.66	7.97	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.67	"	"	"	CRLV	"	04/05/2022 13:22	"	
Chrysene	**37.0**	1.56	9.03	"	10.0	"	CRLV	"	04/05/2022 15:44	"	
Dibenz (a,h) anthracene	**2.80**	0.25	1.81	"	1.0	"	CRLV	"	04/05/2022 13:22	"	
Dibenzofuran	**75.4**	4.05	12.2	"	10.0	"	CRLV	"	04/05/2022 15:44	"	
2,4-Dimethylphenol	ND	0.19	1.06	"	1.0	"	CRLV	"	04/05/2022 13:22	"	
2,4-Dinitrophenol	ND	1.31	4.38	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.29	1.72	"	"	"	CRLV	"	04/04/2022 15:36	"	
Fluoranthene	**174**	2.05	15.2	"	10.0	"	CRLV	"	04/05/2022 15:44	"	
Fluorene	**115**	1.62	12.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**6.81**	0.25	1.65	"	1.0	"	CRLV	"	04/05/2022 13:22	"	
2-Methylnaphthalene	**18.6**	0.05	1.30	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	04/04/2022 15:36	"	
3 & 4-Methylphenol	ND	1.15	3.44	"	"	"	CRLV	"	04/05/2022 13:22	"	
Naphthalene	**7.89**	0.16	1.00	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.06	1.01	"	"	"	CRLV	"	04/04/2022 15:36	"	
Phenanthrene	**189**	1.48	12.2	"	10.0	"	CRLV	"	04/05/2022 15:44	"	
Pyrene	**129**	2.23	5.88	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	1.0	"	CRLV	"	04/04/2022 15:36	"	
1-Methylnaphthalene	**10.9**	0.05	1.30	"	"	"	CRLV	"	04/05/2022 13:22	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/RW-3B

2203513-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
2,4,6-Tribromophenol	6.56		*64.7 %*	*0-200*		*2C30032*	CRLV	*03/30/2022 09:12*	*04/04/2022 15:36*	"	
2-Fluorobiphenyl	2.38		*47.0 %*	*21.3-100*		"	CRLV	"	"	"	
2-Fluorophenol	2.22		*21.9 %*	*0-200*		"	CRLV	"	"	"	
Nitrobenzene-d5	1.83		*36.0 %*	*18.4-100*		"	CRLV	"	"	"	
Phenol-d5	1.76		*17.4 %*	*10-126*		"	CRLV	"	"	"	
Terphenyl-dl4	1.95		*38.4 %*	*28.8-100*		"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 19:04	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	Result	% Rec	Rec Limits	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Dibromofluoromethane	48.0	*96.0 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.3	*98.6 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	50.2	*100 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.5	*103 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/RW-1

2203513-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2C30033	CRLV	03/30/2022 11:08	04/12/2022 22:06	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Fluorene	**0.36**	0.02	0.12	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0514	*25.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0309	*15.0 %*	*11-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.0926	*45.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**20.3**	0.189	1.00	mg/L	2.0	2C31022	DLW	03/29/2022 12:07	03/31/2022 00:14	SM 4110B 2011	
Nitrate as N	ND	0.039	1.00	"	"	"	DLW	"	"	"	HT-21
Ammonia as N	**1.65**	0.03	0.21	"	1.0	2C29033	CRG	03/29/2022 09:00	03/29/2022 13:30	Lachat 10-107-06-1-I	
pH	**7.09**			pH Units	"	2C29034	SSK	03/29/2022 11:55	03/29/2022 11:55	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**226**			umhos/cm @25.0 C	"	2C29026	SSK	03/29/2022 09:00	03/29/2022 09:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.0168**	0.00021	0.00200	mg/L	1.0	2C31013	CLB	03/31/2022 12:15	04/06/2022 16:37	EPA 200.8 Rev 5.4	
Chromium [He]	**0.0232**	0.00215	0.00500	"	5.0	"	CLB	"	04/07/2022 13:17	"	DL-5
Lead [He]	**0.0638**	0.00017	0.00100	"	1.0	"	CLB	"	04/06/2022 16:37	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Mobile/RW-1

2203513-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**3.98**	0.17	1.12	ug/L	1.0	2C30032	CRLV	03/30/2022 09:12	04/05/2022 13:57	EPA 8270D	
Benzo (a) anthracene	**0.99**	0.19	0.95	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**2.07**	0.19	1.48	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**1.04**	0.18	0.88	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**1.49**	0.21	1.29	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.12	"	"	"	CRLV	"	04/04/2022 16:12	"	
Carbazole	ND	2.71	8.12	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.70	"	"	"	CRLV	"	04/05/2022 13:57	"	
Dibenzofuran	ND	0.41	1.24	"	"	"	CRLV	"	04/04/2022 16:12	"	
2,4-Dimethylphenol	ND	0.20	1.08	"	"	"	CRLV	"	04/05/2022 13:57	"	
2,4-Dinitrophenol	ND	1.33	4.46	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.76	"	"	"	CRLV	"	"	"	
Fluoranthene	**2.67**	0.21	1.55	"	"	"	CRLV	"	04/04/2022 16:12	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.17	3.50	"	"	"	CRLV	"	04/05/2022 13:57	"	
Pentachlorophenol	ND	0.07	1.03	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.38**	0.15	0.31	"	"	"	CRLV	"	"	"	
Pyrene	**0.85**	0.23	0.60	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	"	"	CRLV	"	04/04/2022 16:12	"	
1-Methylnaphthalene	ND	0.05	1.32	"	"	"	CRLV	"	04/05/2022 13:57	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.17	*59.7 %*	*0-200*	"	CRLV	"	*04/04/2022 16:12*	"	
2-Fluorobiphenyl	2.05	*39.6 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.24	*21.7 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.68	*32.6 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.92	*18.6 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	1.68	*32.6 %*	*28.8-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 19:28	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:55

Mobile/RW-1

2203513-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.6	*97.1 %*	*83.9-122*	*2C31019*	BSF	*03/30/2022 08:00*	"	"	
1,2-Dichloroethane-d4	49.5	*98.9 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	50.0	*100 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.5	*101 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Trip Blank TBV#6910

2203513-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2C31019	BSF	03/30/2022 08:00	03/30/2022 19:52	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.9	*95.9 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.6	*97.2 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	50.1	*100 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.3	*98.6 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
Blank (2C30033-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0500*			"	*0.200*		*25.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.140*			"	*0.200*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
LCS (2C30033-BS1)											
Naphthalene	0.13	0.02	0.05	ug/L	0.200		65.0	10-145			
2-Methylnaphthalene	0.16	0.05	0.05	"	0.200		80.0	50-150			
Acenaphthylene	0.12	0.01	0.06	"	0.200		60.0	10-147			
Acenaphthene	0.14	0.02	0.05	"	0.200		70.0	10-143			
Fluorene	0.16	0.02	0.12	"	0.200		80.0	10-150			
Phenanthrene	0.19	0.02	0.06	"	0.200		95.0	10-151			
Anthracene	0.16	0.02	0.06	"	0.200		80.0	10-130			
Fluoranthene	0.16	0.03	0.06	"	0.200		80.0	10-155			
Pyrene	0.17	0.02	0.05	"	0.200		85.0	10-148			
Benzo (a) anthracene	0.12	0.02	0.06	"	0.200		60.0	38.5-141			
Chrysene	0.13	0.03	0.05	"	0.200		65.0	45.4-150			
Benzo (b) fluoranthene	0.13	0.03	0.05	"	0.200		65.0	33.6-160			
Benzo (k) fluoranthene	0.12	0.02	0.05	"	0.200		60.0	33-159			
Benzo (a) pyrene	0.10	0.02	0.06	"	0.200		50.0	10-177			
Indeno (1,2,3-cd) pyrene	0.05	0.02	0.17	"	0.200		25.0	10.7-171			
Dibenz (a,h) anthracene	0.05	0.04	0.16	"	0.200		25.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0900*			"	*0.200*		*45.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0500*			"	*0.200*		*25.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2C30033-BSD1)											
Naphthalene	0.18	0.02	0.05	ug/L	0.200		90.0	10-145	32.3	40	
2-Methylnaphthalene	0.21	0.05	0.05	"	0.200		105	50-150	27.0	40	
Acenaphthylene	0.16	0.01	0.06	"	0.200		80.0	10-147	28.6	40	
Acenaphthene	0.18	0.02	0.05	"	0.200		90.0	10-143	25.0	40	
Fluorene	0.21	0.02	0.12	"	0.200		105	10-150	27.0	40	
Phenanthrene	0.27	0.02	0.06	"	0.200		135	10-151	34.8	40	
Anthracene	0.22	0.02	0.06	"	0.200		110	10-130	31.6	40	
Fluoranthene	0.22	0.03	0.06	"	0.200		110	10-155	31.6	40	
Pyrene	0.21	0.02	0.05	"	0.200		105	10-148	21.1	40	
Benzo (a) anthracene	0.17	0.02	0.06	"	0.200		85.0	38.5-141	34.5	40	
Chrysene	0.17	0.03	0.05	"	0.200		85.0	45.4-150	26.7	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	32.3	40	
Benzo (k) fluoranthene	0.15	0.02	0.05	"	0.200		75.0	33-159	22.2	40	
Benzo (a) pyrene	0.13	0.02	0.06	"	0.200		65.0	10-177	26.1	40	
Indeno (1,2,3-cd) pyrene	0.07	0.02	0.17	"	0.200		35.0	10.7-171	33.3	40	
Dibenz (a,h) anthracene	0.07	0.04	0.16	"	0.200		35.0	16-164	33.3	40	
Surrogate: 2-Fluorobiphenyl	*0.180*			"	*0.200*		*90.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.150*			"	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.380*			"	*0.200*		*190*	*11.3-148*			*SR06*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2C30033-DUP1)			**Source: 2203513-03**								
Naphthalene	0.77	0.02	0.05	ug/L		0.47			48.0	45	P3
2-Methylnaphthalene	1.45	0.52	0.52	"		ND			123	45	P3
Acenaphthylene	0.38	0.01	0.06	"		0.33			13.7	45	
Acenaphthene	9.30	2.24	5.17	"		3.74			85.3	45	P3
Fluorene	3.51	0.17	1.24	"		2.32			40.8	45	
Phenanthrene	8.26	1.58	6.20	"		2.83			98.0	45	P3
Anthracene	0.98	0.02	0.06	"		0.87			12.2	45	
Fluoranthene	8.26	2.65	6.20	"		8.08			2.25	45	
Pyrene	2.48	0.17	0.52	"		2.53			1.83	45	
Benzo (a) anthracene	2.79	0.26	0.62	"		3.54			23.6	45	
Chrysene	5.17	3.09	5.17	"		5.05			2.25	45	
Benzo (b) fluoranthene	12.4	2.65	5.17	"		14.1			13.1	45	
Benzo (k) fluoranthene	6.20	2.55	5.17	"		7.07			13.1	45	
Benzo (a) pyrene	2.07	0.22	0.62	"		2.63			23.9	45	
Indeno (1,2,3-cd) pyrene	0.43	0.03	0.18	"		0.53			19.1	45	
Dibenz (a,h) anthracene	0.13	0.04	0.17	"		0.16			18.5	45	J
Surrogate: 2-Fluorobiphenyl	*0.0517*			"	*0.207*		*25.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0517*			"	*0.207*		*25.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.145*			"	*0.207*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30033 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2C30033-MS1)		**Source: 2203513-03**									
Naphthalene	0.23	0.02	0.05	ug/L	0.203	0.47	NR	10-182			M5
2-Methylnaphthalene	ND	0.51	0.51	"	0.203	ND		0-200			
Acenaphthylene	4.05	1.21	6.08	"	0.203	ND	NR	10-200			M5
Acenaphthene	6.08	2.20	5.07	"	0.203	3.74	NR	10-200			M5
Fluorene	3.04	1.70	12.2	"	0.203	2.32	353	10-200			M5
Phenanthrene	8.11	1.55	6.08	"	0.203	2.83	NR	46.3-156			M5
Anthracene	6.08	1.55	6.08	"	0.203	ND	NR	12.9-149			M5
Fluoranthene	42.6	2.60	6.08	"	0.203	8.08	NR	10-200			M5
Pyrene	20.3	1.70	5.07	"	0.203	2.53	NR	10-191			M5
Benzo (a) anthracene	45.6	2.50	6.08	"	0.203	3.54	NR	19.3-191			M5
Chrysene	45.6	3.03	5.07	"	0.203	5.05	NR	16.5-166			M5
Benzo (b) fluoranthene	83.1	2.60	5.07	"	0.203	14.1	NR	17.3-163			M5
Benzo (k) fluoranthene	35.5	2.50	5.07	"	0.203	7.07	NR	23.7-152			M5
Benzo (a) pyrene	34.4	2.20	6.08	"	0.203	2.63	NR	10-200			M5
Indeno (1,2,3-cd) pyrene	7.09	2.50	17.2	"	0.203	ND	NR	10-189			M5
Dibenz (a,h) anthracene	1.32	0.35	1.62	"	0.203	ND	650	51.1-147			M5
Surrogate: 2-Fluorobiphenyl	*0.0608*			"	*0.203*		*30.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0608*			"	*0.203*		*30.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.284*			"	*0.203*		*140*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C29026 - Default Prep GenChem											
LCS (2C29026-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90-110			
Duplicate (2C29026-DUP1)			**Source: 2203450-03**								
Specific Conductance (EC)	2350			umhos/cm @25.0 C		2380			1.27	10	
Batch 2C29033 - Default Prep GenChem											
Blank (2C29033-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2C29033-BS1)											
Ammonia as N	5.10	0.03	0.21	mg/L	5.00		102	90-110			
LCS Dup (2C29033-BSD1)											
Ammonia as N	5.09	0.03	0.21	mg/L	5.00		102	90-110	0.196	10	
Duplicate (2C29033-DUP1)			**Source: 2203514-01**								
Ammonia as N	17.8	0.17	1.05	mg/L		18.2			1.95	10	
Matrix Spike (2C29033-MS1)			**Source: 2203504-01**								
Ammonia as N	4.03	0.03	0.21	mg/L	5.00	0.34	73.9	90-110			M8
Matrix Spike Dup (2C29033-MSD1)			**Source: 2203504-01**								
Ammonia as N	4.74	0.03	0.21	mg/L	5.00	0.34	88.1	90-110	16.2	10	M3, M8
Batch 2C29034 - Default Prep GenChem											
Duplicate (2C29034-DUP1)			**Source: 2203513-02**								
pH	6.94			pH Units		6.93			0.144	5	HT-02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C31022 - Default Prep GenChem											
Blank (2C31022-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
LCS (2C31022-BS1)											
Chloride	10.1	0.095	0.500	mg/L	10.0		101	86.3-109			
Nitrate as N	2.25	0.020	0.500	"	2.26		99.3	81.7-111			
LCS Dup (2C31022-BSD1)											
Chloride	10.2	0.095	0.500	mg/L	10.0		102	86.3-109	1.38	20	
Nitrate as N	2.25	0.020	0.500	"	2.26		99.3	81.7-111	0.00	20	
Duplicate (2C31022-DUP1)			**Source: 2203540-01**								
Chloride	5.37	0.095	0.500	mg/L		4.80			11.2	20	
Nitrate as N	0.776	0.020	0.500	"		0.766			1.30	20	
Matrix Spike (2C31022-MS1)			**Source: 2203540-01**								
Chloride	18.1	0.095	0.500	mg/L	12.0	4.80	111	76.2-122			
Nitrate as N	2.01	0.020	0.500	"	2.71	0.766	45.9	60.8-130			M2
Matrix Spike Dup (2C31022-MSD1)			**Source: 2203540-01**								
Chloride	17.8	0.095	0.500	mg/L	12.0	4.80	108	76.2-122	1.82	20	
Nitrate as N	2.46	0.020	0.500	"	2.71	0.766	62.6	60.8-130	20.2	20	M3

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C31013 - EPA 200.2 DCN 1017 Rev 10											
Blank (2C31013-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (2C31013-BS1)											
Arsenic [He]	0.103	0.00021	0.00200	mg/L	0.100		103	85-115			
Chromium [He]	0.101	0.00043	0.00100	"	0.100		101	85-115			
Lead [He]	0.102	0.00017	0.00100	"	0.100		102	85-115			
Nickel [He]	0.101	0.00016	0.0400	"	0.100		101	85-115			
LCS Dup (2C31013-BSD1)											
Arsenic [He]	0.104	0.00021	0.00200	mg/L	0.100		104	85-115	0.773	20	
Chromium [He]	0.102	0.00043	0.00100	"	0.100		102	85-115	0.385	20	
Lead [He]	0.103	0.00017	0.00100	"	0.100		103	85-115	0.493	20	
Nickel [He]	0.101	0.00016	0.0400	"	0.100		101	85-115	0.113	20	
Matrix Spike (2C31013-MS1)			**Source: 2203558-02**								
Arsenic [He]	0.491	0.00105	0.0100	mg/L	0.500	0.001	98.0	70-130			
Chromium [He]	0.482	0.00215	0.00500	"	0.500	ND	96.3	70-130			
Lead [He]	0.503	0.00083	0.00500	"	0.500	ND	101	70-130			
Nickel [He]	0.556	0.00078	0.200	"	0.500	0.083	94.7	70-130			
Matrix Spike Dup (2C31013-MSD1)			**Source: 2203558-02**								
Arsenic [He]	0.511	0.00105	0.0100	mg/L	0.500	0.001	102	70-130	3.89	20	
Chromium [He]	0.506	0.00215	0.00500	"	0.500	ND	101	70-130	4.91	20	
Lead [He]	0.517	0.00083	0.00500	"	0.500	ND	103	70-130	2.71	20	
Nickel [He]	0.572	0.00078	0.200	"	0.500	0.083	97.9	70-130	2.84	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
Blank (2C30032-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*5.66*			*"*	*10.0*		*56.6*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.15*			*"*	*5.00*		*43.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.65*			*"*	*10.0*		*26.5*	*0-200*			
Surrogate: Nitrobenzene-d5	*1.78*			*"*	*5.00*		*35.6*	*18.4-100*			
Surrogate: Phenol-d5	*1.92*			*"*	*10.0*		*19.2*	*10-126*			
Surrogate: Terphenyl-dl4	*2.12*			*"*	*5.00*		*42.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
LCS (2C30032-BS1)											
Acenaphthene	6.95	0.16	1.08	ug/L	10.0		69.5	21.2-115			
Acenaphthylene	6.70	0.11	1.16	"	10.0		67.0	17.4-116			
Anthracene	9.35	0.13	1.29	"	10.0		93.5	19.4-120			
Benzo (a) anthracene	11.1	0.18	0.92	"	10.0		111	31.6-117			
Benzo (b) fluoranthene	10.6	0.18	1.43	"	10.0		106	24.6-128			
Benzo (k) fluoranthene	9.18	0.17	0.85	"	10.0		91.8	19.5-128			
Benzo (a) pyrene	10.0	0.20	1.25	"	10.0		100	34.2-116			
Bis(2-ethylhexyl)phthalate	10.8	0.37	1.08	"	10.0		108	42.2-130			
Carbazole	9.45	2.62	7.86	"	10.0		94.5	30.1-145			
4-Chloro-3-methylphenol	10.5	0.27	1.65	"	10.0		105	43.1-105			
Chrysene	5.67	0.15	0.89	"	10.0		56.7	42.1-106			
Dibenz (a,h) anthracene	5.15	0.25	1.78	"	10.0		51.5	23.1-136			
Dibenzofuran	7.20	0.40	1.20	"	10.0		72.0	25-127			
2,4-Dimethylphenol	11.4	0.19	1.05	"	10.0		114	31.6-130			
2,4-Dinitrophenol	7.74	1.29	4.32	"	10.0		77.4	22.1-110			
Di-n-octyl phthalate	11.2	0.29	1.70	"	10.0		112	42.9-130			
Fluoranthene	9.62	0.20	1.50	"	10.0		96.2	47.7-104			
Fluorene	7.99	0.16	1.19	"	10.0		79.9	49.1-98.2			
Indeno (1,2,3-cd) pyrene	7.93	0.25	1.63	"	10.0		79.3	27.8-136			
2-Methylnaphthalene	6.11	0.05	1.28	"	10.0		61.1	22.3-108			
2-Methylphenol	6.99	0.41	1.24	"	10.0		69.9	15.8-123			
3 & 4-Methylphenol	14.4	1.13	3.39	"	20.0		72.2	11.1-130			
Naphthalene	5.78	0.15	0.99	"	10.0		57.8	22.1-109			
Pentachlorophenol	13.1	0.06	1.00	"	10.0		131	28.8-130			L1
Phenanthrene	8.82	0.15	1.20	"	10.0		88.2	22.1-115			
Pyrene	10.1	0.22	0.58	"	10.0		101	19-108			
2,4,6-Trichlorophenol	9.63	0.44	1.32	"	10.0		96.3	44.4-104			
1-Methylnaphthalene	5.98	0.05	1.28	"	10.0		59.8	23.7-97.4			
Surrogate: 2,4,6-Tribromophenol	*5.94*			"	*10.0*		*59.4*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*1.94*			"	*5.00*		*38.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.32*			"	*10.0*		*23.2*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.04*			"	*5.00*		*40.8*	*18.4-100*			
Surrogate: Phenol-d5	*1.81*			"	*10.0*		*18.1*	*10-126*			
Surrogate: Terphenyl-dl4	*1.84*			"	*5.00*		*36.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2C30032-BSD1)											
Acenaphthene	7.70	0.16	1.08	ug/L	10.0		77.0	21.2-115	10.2	48	
Acenaphthylene	7.31	0.11	1.16	"	10.0		73.1	17.4-116	8.71	74	
Anthracene	9.04	0.13	1.29	"	10.0		90.4	19.4-120	3.37	66	
Benzo (a) anthracene	10.3	0.18	0.92	"	10.0		103	31.6-117	7.12	53	
Benzo (b) fluoranthene	10.7	0.18	1.43	"	10.0		107	24.6-128	0.751	71	
Benzo (k) fluoranthene	9.15	0.17	0.85	"	10.0		91.5	19.5-128	0.327	63	
Benzo (a) pyrene	10.3	0.20	1.25	"	10.0		103	34.2-116	3.05	72	
Bis(2-ethylhexyl)phthalate	10.9	0.37	1.08	"	10.0		109	42.2-130	1.57	82	
Carbazole	9.27	2.62	7.86	"	10.0		92.7	30.1-145	1.92	40	
4-Chloro-3-methylphenol	11.3	0.27	1.65	"	10.0		113	43.1-130	7.62	73	
Chrysene	4.98	0.15	0.89	"	10.0		49.8	42.1-106	13.0	87	
Dibenz (a,h) anthracene	5.32	0.25	1.78	"	10.0		53.2	23.1-136	3.25	126	
Dibenzofuran	7.82	0.40	1.20	"	10.0		78.2	25-127	8.26	40	
2,4-Dimethylphenol	12.9	0.19	1.05	"	10.0		129	31.6-130	12.7	58	
2,4-Dinitrophenol	10.9	1.29	4.32	"	10.0		109	22.1-110	33.5	132	
Di-n-octyl phthalate	11.6	0.29	1.70	"	10.0		116	42.9-130	3.86	69	
Fluoranthene	8.66	0.20	1.50	"	10.0		86.6	47.7-104	10.5	66	
Fluorene	8.45	0.16	1.19	"	10.0		84.5	49.1-98.2	5.60	38	
Indeno (1,2,3-cd) pyrene	8.24	0.25	1.63	"	10.0		82.4	27.8-136	3.83	99	
2-Methylnaphthalene	6.79	0.05	1.28	"	10.0		67.9	22.3-108	10.5	40	
2-Methylphenol	8.11	0.41	1.24	"	10.0		81.1	15.8-123	14.8	40	
3 & 4-Methylphenol	16.7	1.13	3.39	"	20.0		83.6	11.1-130	14.7	40	
Naphthalene	6.47	0.15	0.99	"	10.0		64.7	22.1-109	11.3	65	
Pentachlorophenol	10.7	0.06	1.00	"	10.0		107	28.8-130	20.7	86	
Phenanthrene	8.59	0.15	1.20	"	10.0		85.9	22.1-115	2.64	39	
Pyrene	10.7	0.22	0.58	"	10.0		107	19-108	5.47	49	
2,4,6-Trichlorophenol	10.1	0.44	1.32	"	10.0		101	44.4-104	4.57	58	
1-Methylnaphthalene	6.71	0.05	1.28	"	10.0		67.1	23.7-97.4	11.5	40	
Surrogate: 2,4,6-Tribromophenol	*6.24*			"	*10.0*		*62.4*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.13*			"	*5.00*		*42.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.73*			"	*10.0*		*27.3*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.28*			"	*5.00*		*45.6*	*18.4-100*			
Surrogate: Phenol-d5	*2.16*			"	*10.0*		*21.6*	*10-126*			
Surrogate: Terphenyl-dl4	*1.76*			"	*5.00*		*35.2*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2C30032-DUP1)			**Source: 2203513-04**								
Acenaphthene	0.91	0.17	1.10	ug/L		3.98			126	45	J, P3
Acenaphthylene	ND	0.11	1.18	"		ND				45	
Anthracene	ND	0.13	1.32	"		ND				45	
Benzo (a) anthracene	0.49	0.19	0.94	"		0.99			67.8	45	J, P3
Benzo (b) fluoranthene	1.53	0.19	1.46	"		2.07			29.8	45	
Benzo (k) fluoranthene	1.06	0.17	0.87	"		1.04			1.69	45	
Benzo (a) pyrene	1.31	0.21	1.28	"		1.49			13.0	45	
Bis(2-ethylhexyl)phthalate	1.56	0.37	1.10	"		ND			200	45	P3
Carbazole	ND	2.67	8.02	"		ND				45	
4-Chloro-3-methylphenol	ND	0.28	1.68	"		ND				45	
Chrysene	ND	0.16	0.91	"		ND				45	
Dibenz (a,h) anthracene	ND	0.25	1.82	"		ND				45	
Dibenzofuran	ND	0.41	1.22	"		ND				45	
2,4-Dimethylphenol	ND	0.19	1.07	"		ND				45	
2,4-Dinitrophenol	ND	1.32	4.41	"		ND				45	
Di-n-octyl phthalate	ND	0.29	1.73	"		ND				45	
Fluoranthene	2.63	0.21	1.53	"		2.67			1.23	45	
Fluorene	ND	0.16	1.21	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.25	1.66	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.31	"		ND				45	
2-Methylphenol	ND	0.42	1.27	"		ND				45	
3 & 4-Methylphenol	ND	1.15	3.46	"		ND				45	
Naphthalene	6.53	0.16	1.01	"		ND			200	45	P3
Pentachlorophenol	ND	0.06	1.02	"		ND				45	
Phenanthrene	0.66	0.15	0.61	"		0.38			53.8	45	P3
Pyrene	0.64	0.22	0.59	"		0.85			27.4	45	
2,4,6-Trichlorophenol	ND	0.45	1.35	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.31	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*4.60*			*"*	*10.2*		*45.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*1.71*			*"*	*5.10*		*33.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*2.80*			*"*	*10.2*		*27.4*	*0-200*			
Surrogate: Nitrobenzene-d5	*1.56*			*"*	*5.10*		*30.6*	*18.4-100*			
Surrogate: Phenol-d5	*2.29*			*"*	*10.2*		*22.4*	*10-126*			
Surrogate: Terphenyl-dl4	*1.57*			*"*	*5.10*		*30.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30032 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2C30032-MS1)		**Source: 2203513-04**									
Acenaphthene	6.99	0.17	1.10	ug/L	10.2	3.98	29.5	21-100			
Acenaphthylene	5.73	0.11	1.18	"	10.2	ND	56.1	35.5-100			
Anthracene	6.81	0.13	1.32	"	10.2	ND	66.7	39.6-100			
Benzo (a) anthracene	7.03	0.19	0.94	"	10.2	0.99	59.1	37.9-100			
Benzo (b) fluoranthene	7.54	0.19	1.46	"	10.2	2.07	53.6	34.4-105			
Benzo (k) fluoranthene	7.29	0.17	0.87	"	10.2	1.04	61.2	32.7-100			
Benzo (a) pyrene	7.21	0.21	1.28	"	10.2	1.49	56.0	40.6-100			
Bis(2-ethylhexyl)phthalate	9.10	0.37	1.10	"	10.2	ND	89.1	8-158			
Carbazole	6.19	2.68	8.03	"	10.2	ND	60.6	15.3-151			
4-Chloro-3-methylphenol	7.88	0.28	1.69	"	10.2	ND	77.1	22-147			
Chrysene	6.58	0.16	0.91	"	10.2	ND	64.4	34.8-100			
Dibenz (a,h) anthracene	6.85	0.25	1.82	"	10.2	ND	67.1	10-176			
Dibenzofuran	6.22	0.41	1.23	"	10.2	ND	60.9	38.3-107			
2,4-Dimethylphenol	10.1	0.19	1.07	"	10.2	ND	98.6	32-120			
2,4-Dinitrophenol	8.37	1.32	4.41	"	10.2	ND	81.9	5-191			
Di-n-octyl phthalate	8.20	0.29	1.74	"	10.2	ND	80.3	4-146			
Fluoranthene	7.20	0.21	1.53	"	10.2	2.67	44.4	44.4-100			
Fluorene	6.76	0.16	1.22	"	10.2	ND	66.2	40.1-100			
Indeno (1,2,3-cd) pyrene	6.32	0.25	1.66	"	10.2	ND	61.9	10-173			
2-Methylnaphthalene	5.94	0.05	1.31	"	10.2	ND	58.2	16.6-107			
2-Methylphenol	5.78	0.42	1.27	"	10.2	ND	56.6	7.21-120			
3 & 4-Methylphenol	12.4	1.15	3.46	"	20.4	ND	60.8	8-134			
Naphthalene	10.4	0.16	1.01	"	10.2	ND	102	29.1-130			
Pentachlorophenol	9.26	0.06	1.02	"	10.2	ND	90.7	14-176			
Phenanthrene	6.58	0.15	1.23	"	10.2	0.38	60.7	40.7-100			
Pyrene	7.42	0.22	0.59	"	10.2	0.85	64.3	40.6-100			
2,4,6-Trichlorophenol	5.85	0.45	1.35	"	10.2	ND	57.3	37-144			
1-Methylnaphthalene	5.40	0.05	1.31	"	10.2	ND	52.9	18.5-100			
Surrogate: 2,4,6-Tribromophenol	*6.61*			"	*10.2*		*64.7*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.72*			"	*5.11*		*53.2*	*21.3-100*			
Surrogate: 2-Fluorophenol	*3.17*			"	*10.2*		*31.0*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.77*			"	*5.11*		*54.2*	*18.4-100*			
Surrogate: Phenol-d5	*2.60*			"	*10.2*		*25.5*	*10-126*			
Surrogate: Terphenyl-dl4	*1.78*			"	*5.11*		*34.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D04026 - EPA 3510C DCN 4000 Rev 12											
Blank (2D04026-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							CC-01
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*63.8*			"	*100*		*63.8*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*22.4*			"	*50.0*		*44.7*	*16.9-105*			
Surrogate: 2-Fluorophenol	*25.3*			"	*100*		*25.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*19.0*			"	*50.0*		*37.9*	*10-100*			
Surrogate: Phenol-d5	*20.4*			"	*100*		*20.4*	*10-112*			
Surrogate: Terphenyl-dl4	*16.0*			"	*50.0*		*31.9*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D04026 - EPA 3510C DCN 4000 Rev 12											
LCS (2D04026-BS1)											
Acenaphthene	58.1	1.13	10.0	ug/L	100		58.1	36.1-108			
Acenaphthylene	60.3	1.07	10.0	"	100		60.3	34.6-109			
Anthracene	64.0	0.99	10.0	"	100		64.0	36.4-106			
Benzo (a) anthracene	56.4	0.87	10.0	"	100		56.4	42.9-101			
Benzo (b) fluoranthene	51.1	1.03	10.0	"	100		51.1	43.7-105			
Benzo (k) fluoranthene	49.3	1.01	10.0	"	100		49.3	38.1-112			
Benzo (a) pyrene	52.0	0.98	10.0	"	100		52.0	46.5-104			
Bis(2-ethylhexyl)phthalate	60.7	1.14	10.0	"	100		60.7	25.1-113			
Carbazole	73.5	0.90	10.0	"	100		73.5	5.43-162			
4-Chloro-3-methylphenol	56.0	1.04	10.0	"	100		56.0	39.1-106			
Chrysene	52.4	0.92	10.0	"	100		52.4	43.2-103			
Dibenz (a,h) anthracene	59.3	0.67	10.0	"	100		59.3	31-119			
Dibenzofuran	56.2	1.04	10.0	"	100		56.2	37.6-110			
2,4-Dimethylphenol	50.6	0.84	10.0	"	100		50.6	36-100			
2,4-Dinitrophenol	28.3	3.05	10.0	"	100		28.3	10.5-124			
Di-n-octyl phthalate	51.2	1.35	10.0	"	100		51.2	33.6-111			
Fluoranthene	106	0.93	10.0	"	100		106	26.4-121			
Fluorene	61.6	1.01	10.0	"	100		61.6	36.9-109			
Indeno (1,2,3-cd) pyrene	61.1	0.89	10.0	"	100		61.1	35.6-116			
2-Methylnaphthalene	45.0	1.12	10.0	"	100		45.0	34.3-102			
2-Methylphenol	42.0	0.88	10.0	"	100		42.0	35-101			
3 & 4-Methylphenol	84.9	0.87	10.0	"	200		42.4	29.4-107			
Naphthalene	47.8	1.09	10.0	"	100		47.8	36.8-100			
Pentachlorophenol	26.2	2.72	10.0	"	100		26.2	15.1-115			
Phenanthrene	62.0	0.93	10.0	"	100		62.0	36.4-110			
Pyrene	33.2	1.09	10.0	"	100		33.2	23.9-114			CC-03
2,4,6-Trichlorophenol	49.5	2.58	10.0	"	100		49.5	36-104			
Surrogate: 2,4,6-Tribromophenol	*56.3*			"	*100*		*56.3*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*25.7*			"	*50.0*		*51.4*	*16.9-105*			
Surrogate: 2-Fluorophenol	*32.7*			"	*100*		*32.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*19.7*			"	*50.0*		*39.4*	*10-100*			
Surrogate: Phenol-d5	*20.3*			"	*100*		*20.3*	*10-112*			
Surrogate: Terphenyl-dl4	*14.5*			"	*50.0*		*29.0*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D04026 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D04026-BSD1)											
Acenaphthene	64.4	1.13	10.0	ug/L	100		64.4	36.1-108	10.2	40	
Acenaphthylene	67.8	1.07	10.0	"	100		67.8	34.6-109	11.7	40	
Anthracene	71.9	0.99	10.0	"	100		71.9	36.4-106	11.6	40	
Benzo (a) anthracene	62.7	0.87	10.0	"	100		62.7	42.9-101	10.5	40	
Benzo (b) fluoranthene	56.2	1.03	10.0	"	100		56.2	43.7-105	9.45	40	
Benzo (k) fluoranthene	55.3	1.01	10.0	"	100		55.3	38.1-112	11.4	40	
Benzo (a) pyrene	57.7	0.98	10.0	"	100		57.7	46.5-104	10.3	40	
Bis(2-ethylhexyl)phthalate	67.4	1.14	10.0	"	100		67.4	25.1-113	10.5	40	
Carbazole	76.1	0.90	10.0	"	100		76.1	5.43-162	3.43	40	
4-Chloro-3-methylphenol	52.5	1.04	10.0	"	100		52.5	39.1-106	6.44	40	
Chrysene	58.5	0.92	10.0	"	100		58.5	43.2-103	11.1	40	
Dibenz (a,h) anthracene	65.3	0.67	10.0	"	100		65.3	31-119	9.69	40	
Dibenzofuran	60.8	1.04	10.0	"	100		60.8	37.6-110	7.96	40	
2,4-Dimethylphenol	62.3	0.84	10.0	"	100		62.3	36-100	20.7	40	
2,4-Dinitrophenol	40.2	3.05	10.0	"	100		40.2	10.5-124	34.8	40	
Di-n-octyl phthalate	58.1	1.35	10.0	"	100		58.1	33.6-111	12.5	40	
Fluoranthene	108	0.93	10.0	"	100		108	26.4-121	1.89	40	
Fluorene	67.2	1.01	10.0	"	100		67.2	36.9-109	8.67	40	
Indeno (1,2,3-cd) pyrene	67.2	0.89	10.0	"	100		67.2	35.6-116	9.55	40	
2-Methylnaphthalene	41.6	1.12	10.0	"	100		41.6	34.3-102	7.84	40	
2-Methylphenol	59.9	0.88	10.0	"	100		59.9	35-101	35.0	40	
3 & 4-Methylphenol	119	0.87	10.0	"	200		59.3	29.4-107	33.1	40	
Naphthalene	58.3	1.09	10.0	"	100		58.3	36.8-100	19.9	40	
Pentachlorophenol	27.7	2.72	10.0	"	100		27.7	15.1-115	5.61	40	
Phenanthrene	72.3	0.93	10.0	"	100		72.3	36.4-110	15.3	40	
Pyrene	37.1	1.09	10.0	"	100		37.1	23.9-114	11.1	40	CC-03
2,4,6-Trichlorophenol	56.1	2.58	10.0	"	100		56.1	36-104	12.4	40	
Surrogate: 2,4,6-Tribromophenol	*61.7*			"	*100*		*61.7*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*29.2*			"	*50.0*		*58.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*37.8*			"	*100*		*37.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*28.1*			"	*50.0*		*56.1*	*10-100*			
Surrogate: Phenol-d5	*29.3*			"	*100*		*29.3*	*10-112*			
Surrogate: Terphenyl-dl4	*16.6*			"	*50.0*		*33.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D04026 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D04026-DUP1)			**Source: 2203519-01**								
Acenaphthene	21.7	1.14	10.1	ug/L		18.2			17.2	45	
Acenaphthylene	ND	1.08	10.1	"		ND				45	
Anthracene	ND	1.00	10.1	"		ND				45	
Benzo (a) anthracene	ND	0.88	10.1	"		ND				45	
Benzo (b) fluoranthene	ND	1.04	10.1	"		ND				45	
Benzo (k) fluoranthene	ND	1.02	10.1	"		ND				45	
Benzo (a) pyrene	ND	0.98	10.1	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.15	10.1	"		ND				45	
Carbazole	ND	0.90	10.1	"		ND				45	
4-Chloro-3-methylphenol	ND	1.05	10.1	"		ND				45	
Chrysene	ND	0.93	10.1	"		ND				45	
Dibenz (a,h) anthracene	ND	0.67	10.1	"		ND				45	
Dibenzofuran	ND	1.05	10.1	"		ND				45	
2,4-Dimethylphenol	ND	0.85	10.1	"		ND				45	
2,4-Dinitrophenol	ND	3.07	10.1	"		ND				45	
Di-n-octyl phthalate	ND	1.36	10.1	"		ND				45	
Fluoranthene	ND	0.94	10.1	"		ND				45	
Fluorene	ND	1.02	10.1	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.89	10.1	"		ND				45	
2-Methylnaphthalene	ND	1.13	10.1	"		ND				45	
2-Methylphenol	ND	0.89	10.1	"		ND				45	
3 & 4-Methylphenol	ND	0.88	10.1	"		ND				45	
Naphthalene	20.6	1.10	10.1	"		29.6			36.0	45	
Pentachlorophenol	ND	2.74	10.1	"		ND				45	
Phenanthrene	ND	0.94	10.1	"		ND				45	
Pyrene	ND	1.10	10.1	"		ND				45	CC-01
2,4,6-Trichlorophenol	ND	2.60	10.1	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*142*			"	*101*		*141*	*16.7-116*			*SR05*
Surrogate: 2-Fluorobiphenyl	*47.5*			"	*50.4*		*94.2*	*16.9-105*			
Surrogate: 2-Fluorophenol	*54.9*			"	*101*		*54.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*39.3*			"	*50.4*		*77.9*	*10-100*			
Surrogate: Phenol-d5	*44.5*			"	*101*		*44.2*	*10-112*			
Surrogate: Terphenyl-dl4	*29.2*			"	*50.4*		*57.9*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C31019 - EPA 5030B											
Blank (2C31019-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*50.2*			"	*50.0*		*100*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*50.9*			"	*50.0*		*102*	*87.4-116*			
Surrogate: Toluene-d8	*50.6*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.0*			"	*50.0*		*100*	*80.4-119*			
LCS (2C31019-BS1)											
Benzene	19.7	0.258	5.00	ug/L	20.0		98.7	64.2-144			
Ethylbenzene	20.4	0.190	5.00	"	20.0		102	64.9-150			
Surrogate: Dibromofluoromethane	*50.6*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.7*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*49.8*			"	*50.0*		*99.6*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.2*			"	*50.0*		*100*	*80.4-119*			
LCS Dup (2C31019-BSD1)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.3	64.2-144	0.556	30	
Ethylbenzene	20.0	0.190	5.00	"	20.0		100	64.9-150	2.08	30	
Surrogate: Dibromofluoromethane	*51.1*			"	*50.0*		*102*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.4*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*49.1*			"	*50.0*		*98.2*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.0*			"	*50.0*		*100*	*80.4-119*			
Matrix Spike (2C31019-MS1)		**Source: 2203449-03**									
Benzene	27.0	0.258	5.00	ug/L	20.0	5.92	105	70-149			
Ethylbenzene	46.1	0.190	5.00	"	20.0	28.2	89.5	70.2-150			
Surrogate: Dibromofluoromethane	*50.0*			"	*50.0*		*100*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*50.3*			"	*50.0*		*101*	*87.4-116*			
Surrogate: Toluene-d8	*51.6*			"	*50.0*		*103*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C31019 - EPA 5030B											
Matrix Spike Dup (2C31019-MSD1)		**Source: 2203449-03**									
Benzene	26.5	0.258	5.00	ug/L	20.0	5.92	103	70-149	1.83	35	
Ethylbenzene	45.1	0.190	5.00	"	20.0	28.2	84.5	70.2-150	2.19	35	
Surrogate: Dibromofluoromethane	*51.1*			"	*50.0*		*102*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*50.5*			"	*50.0*		*101*	*87.4-116*			
Surrogate: Toluene-d8	*51.4*			"	*50.0*		*103*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.3*			"	*50.0*		*101*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 12/20/2022 11:55

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:55

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Camie Bourne	CLB
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Howard Mitch Spicer	HMS
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Stella S Kleist	SSK
Steven Tobias	SWT
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2203513

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-5040	Sampler Name Signed:

Turn Around Time & Reporting

Our normal turn around time is 10 working days

_xNormal
__Next Day*
__2nd Day*
__Other*_____

*All rush order requests must be prior approved.

__Phone
__Mail
__Fax
__Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
GC-SUMP	3-28-22/10:50	W	6	G	X	X	X	X		X	X
T-2	3-28-22/11:10	W	7	C	X	X	X	X	X	X	X
RW-3B	3-28-22/13:20	W	9	G	X	X	X	X	X	X	X
RW-1	3-28-22/9:45	W	9	G	X	X	X	X	X	X	X
TBV# 6910	3-28-22/9:45	W	2	G							X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 5A Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jess Gonsoulin		EMS	3-29-22	8:12
Received by	Sarah Tomeh	Sarah Tomeh	MM	3/29/22	0812
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 0.3°c
client cooler #2 - 0.2°c

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2203540

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 03/30/2022 08:15. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/T-1	2203540-01	Water	03/29/2022 09:50	*Jeff Gonsoulin*	03/30/2022 08:15
Mobile/RW-3A	2203540-02	Water	03/29/2022 10:30	*Jeff Gonsoulin*	03/30/2022 08:15
Mobile/RC-2	2203540-03	Water	03/29/2022 13:00	*Jeff Gonsoulin*	03/30/2022 08:15
Mobile/RC-3	2203540-04	Water	03/29/2022 14:10	*Jeff Gonsoulin*	03/30/2022 08:15
Mobile/RW-6	2203540-05	Water	03/29/2022 16:30	*Jeff Gonsoulin*	03/30/2022 08:15
Trip Blank TBV#6904	2203540-06	Water	03/29/2022 09:50	*Micro Methods*	03/30/2022 08:15

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Sample Receipt Conditions

Date/Time Received: 3/30/2022 8:15:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 3/30/2022 8:30:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Cooler ID: client cooler #2

Receipt Temperature: 0.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:58

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:58

Total Metals-EPA 200.8 Rev 5.4

Qualifiers:

DL-5 Dilution performed due to matrix interference

Chromium [He]
2203540-03[Mobile/RC-2]

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2-Methylphenol, 3 & 4-Methylphenol, Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, Dibenz (a,h) anthracene, Di-n-octyl phthalate, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene
2203540-05[Mobile/RW-6], 2203540-01[Mobile/T-1], 2203540-03[Mobile/RC-2], 2D06008-BLK1

L1 LCS and/or LCSD Recovery Limit exceeded.

4-Chloro-3-methylphenol, Carbazole, Di-n-octyl phthalate
2D06009-BSD1

L2 LCS and/or LCSD Recovery below acceptance limit.

2,4-Dinitrophenol
2D06009-BSD1

L3 LCS/LCSD Precision Limit exceeded.

2,4-Dinitrophenol, Pentachlorophenol
2D06008-BSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

2-Methylnaphthalene, Acenaphthene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Carbazole, Chrysene, Dibenzofuran, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene
2D06008-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

1-Methylnaphthalene, 2-Methylnaphthalene, Carbazole
2D06009-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:58

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

2203540-03[Mobile/RC-2]

SR16 The surrogate recovery for this sample is outside of established control limits.

2,4,6-Tribromophenol, 2-Fluorophenol, Phenol-d5

2D06008-BLK1

Anions-SM 4110B 2011

Qualifiers:

M2 MS/MSD Recovery below acceptable limit.

Nitrate as N

2C31022-MS1

M3 MS/MSD Precision Limit exceeded.

Nitrate as N

2C31022-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2203540-01[Mobile/T-1], 2203540-02[Mobile/ RW-3A], 2203540-03[Mobile/RC-2], 2203540-04[Mobile/RC-3], 2203540-05[Mobile/ RW-6], 2C30041-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/T-1

2203540-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**4.80**	0.095	0.500	mg/L	1.0	2C31022	DLW	03/30/2022 12:48	03/30/2022 12:58	SM 4110B 2011	
Nitrate as N	**0.766**	0.020	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	**0.27**	0.03	0.21	"	"	2C31028	CRG	03/31/2022 12:00	03/31/2022 14:05	Lachat 10-107-06-1-I	
pH	**7.70**			pH Units	"	2C30041	CRG	03/30/2022 11:10	03/30/2022 11:10	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**204**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D01020	CLB	04/01/2022 12:15	04/06/2022 17:14	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**1.61**	1.23	10.9	ug/L	1.0	2D06008	CRLV	04/05/2022 08:44	04/09/2022 05:49	EPA 8270D	J
Acenaphthylene	ND	1.16	10.9	"	"	"	CRLV	"	"	"	
Anthracene	**1.34**	1.07	10.9	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	**7.21**	0.94	10.9	"	"	"	CRLV	"	"	"	J
Benzo (b) fluoranthene	**10.3**	1.12	10.9	"	"	"	CRLV	"	"	"	J
Benzo (k) fluoranthene	ND	1.10	10.9	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**5.04**	1.06	10.9	"	"	"	CRLV	"	"	"	J
Bis(2-ethylhexyl)phthalate	ND	1.24	10.9	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.97	10.9	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.13	10.9	"	"	"	CRLV	"	"	"	
Chrysene	**6.08**	1.00	10.9	"	"	"	CRLV	"	"	"	J
Dibenz (a,h) anthracene	**2.21**	0.73	10.9	"	"	"	CRLV	"	"	"	J
Dibenzofuran	ND	1.13	10.9	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.91	10.9	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.31	10.9	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.47	10.9	"	"	"	CRLV	"	"	"	
Fluoranthene	**12.6**	1.01	10.9	"	"	"	CRLV	"	"	"	
Fluorene	**1.29**	1.10	10.9	"	"	"	CRLV	"	"	"	J
Indeno (1,2,3-cd) pyrene	**3.60**	0.96	10.9	"	"	"	CRLV	"	"	"	J
2-Methylnaphthalene	ND	1.22	10.9	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.96	10.9	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.95	10.9	"	"	"	CRLV	"	"	"	
Naphthalene	**205**	11.8	109	"	10.0	"	CRLV	"	04/09/2022 02:25	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/T-1

2203540-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Pentachlorophenol	ND	2.95	10.9	"	1.0	2D06008	CRLV	04/05/2022 08:44	04/09/2022 05:49	"	
Phenanthrene	**145**	10.1	109	"	10.0	"	CRLV	"	04/09/2022 02:25	"	
Pyrene	**15.5**	1.18	10.9	"	1.0	"	CRLV	"	04/09/2022 05:49	"	
2,4,6-Trichlorophenol	ND	2.80	10.9	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	43.9	*40.5 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	21.7	*39.9 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	18.7	*17.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	19.1	*35.1 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	20.0	*18.4 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	18.6	*34.3 %*	*10-105*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D04042	BSF	04/01/2022 08:00	04/01/2022 18:55	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.2	*96.4 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.3	*96.5 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	49.5	*99.0 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.6	*103 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RW-3A

2203540-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**51.6**	0.378	2.00	mg/L	4.0	2C31022	DLW	03/30/2022 14:23	03/30/2022 17:51	SM 4110B 2011	
Nitrate as N	ND	0.079	2.00	"	"	"	DLW	"	"	"	
Ammonia as N	**7.82**	0.03	0.21	"	1.0	2C31028	CRG	03/31/2022 12:00	03/31/2022 14:10	Lachat 10-107-06-1-I	
pH	**9.51**			pH Units	"	2C30041	CRG	03/30/2022 11:15	03/30/2022 11:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1050**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00201**	0.00021	0.00200	mg/L	1.0	2D01020	CLB	04/01/2022 12:15	04/06/2022 17:18	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RW-3A

2203540-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**142**	0.18	1.18	ug/L	1.0	2D06009	CRLV	04/05/2022 09:57	04/07/2022 23:23	EPA 8270D	
Acenaphthylene	**4.15**	0.12	1.27	"	"	"	CRLV	"	"	"	
Anthracene	**55.8**	0.14	1.41	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**153**	0.20	1.01	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**115**	0.20	1.56	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**36.8**	0.19	0.93	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**74.9**	0.22	1.37	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.40	1.18	"	"	"	CRLV	"	"	"	
Carbazole	**81.1**	28.7	54.7	"	10.0	"	CRLV	"	04/07/2022 22:12	"	
4-Chloro-3-methylphenol	ND	0.30	1.81	"	1.0	"	CRLV	"	04/07/2022 23:23	"	
Chrysene	**158**	0.17	0.97	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**8.68**	0.27	1.95	"	"	"	CRLV	"	"	"	
Dibenzofuran	**29.9**	4.37	13.1	"	10.0	"	CRLV	"	04/07/2022 22:12	"	
2,4-Dimethylphenol	**3.60**	0.21	1.15	"	1.0	"	CRLV	"	04/07/2022 23:23	"	
2,4-Dinitrophenol	ND	1.41	4.73	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.32	1.86	"	"	"	CRLV	"	"	"	
Fluoranthene	**570**	2.21	16.4	"	10.0	"	CRLV	"	04/07/2022 22:12	"	
Fluorene	**50.4**	0.18	1.30	"	1.0	"	CRLV	"	04/07/2022 23:23	"	
Indeno (1,2,3-cd) pyrene	**25.8**	0.27	1.78	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**2.53**	0.05	1.40	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.45	1.36	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.24	3.71	"	"	"	CRLV	"	"	"	
Naphthalene	**2.63**	0.17	1.08	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.09	"	"	"	CRLV	"	"	"	
Phenanthrene	**89.4**	0.16	1.31	"	"	"	CRLV	"	"	"	
Pyrene	**165**	0.24	0.63	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.48	1.44	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	**3.74**	0.05	1.40	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	14.0	*128 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	5.96	*109 %*	*21.3-110*	"	CRLV	"	"	"	
2-Fluorophenol	7.06	*64.5 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	5.38	*98.4 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	5.24	*47.9 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.76	*68.8 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RW-3A

2203540-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D04042	BSF	04/01/2022 08:00	04/01/2022 19:18	EPA 8260D	
Ethylbenzene	**7.33**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.5	*97.0 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.9	*97.7 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	49.9	*99.7 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	53.0	*106 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RC-2

2203540-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**169**	0.946	5.00	mg/L	10.0	2C31022	DLW	03/30/2022 14:23	03/30/2022 18:23	SM 4110B 2011	
Nitrate as N	**6.17**	0.197	5.00	"	"	"	DLW	"	"	"	
Ammonia as N	**5.70**	0.03	0.21	"	1.0	2C31028	CRG	03/31/2022 12:00	03/31/2022 14:11	Lachat 10-107-06-1-I	
pH	**6.42**			pH Units	"	2C30041	CRG	03/30/2022 11:19	03/30/2022 11:19	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**861**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D01020	CLB	04/01/2022 12:15	04/06/2022 17:22	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00215	0.00500	"	5.0	"	CLB	"	04/07/2022 12:25	"	DL-5
Lead [He]	ND	0.00017	0.00100	"	1.0	"	CLB	"	04/06/2022 17:22	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RC-2

2203540-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**19.7**	1.15	10.2	ug/L	1.0	2D06008	CRLV	04/05/2022 08:44	04/08/2022 23:36	EPA 8270D	
Acenaphthylene	ND	1.09	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.01	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**3.63**	0.89	10.2	"	"	"	CRLV	"	"	"	J
Benzo (b) fluoranthene	**4.57**	1.05	10.2	"	"	"	CRLV	"	"	"	J
Benzo (k) fluoranthene	**3.82**	1.03	10.2	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	**4.24**	1.00	10.2	"	"	"	CRLV	"	"	"	J
Bis(2-ethylhexyl)phthalate	**2.54**	1.16	10.2	"	"	"	CRLV	"	"	"	J
Carbazole	ND	0.92	10.2	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.06	10.2	"	"	"	CRLV	"	"	"	
Chrysene	**3.44**	0.94	10.2	"	"	"	CRLV	"	"	"	J
Dibenz (a,h) anthracene	**3.39**	0.68	10.2	"	"	"	CRLV	"	"	"	J
Dibenzofuran	ND	1.06	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.86	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.11	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	**2.14**	1.38	10.2	"	"	"	CRLV	"	"	"	J
Fluoranthene	**1.48**	0.95	10.2	"	"	"	CRLV	"	"	"	J
Fluorene	**4.09**	1.03	10.2	"	"	"	CRLV	"	"	"	J
Indeno (1,2,3-cd) pyrene	**4.01**	0.90	10.2	"	"	"	CRLV	"	"	"	J
2-Methylnaphthalene	ND	1.14	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.90	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**3.27**	1.11	10.2	"	"	"	CRLV	"	"	"	J
Pentachlorophenol	ND	2.78	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	**1.60**	0.95	10.2	"	"	"	CRLV	"	"	"	J
Pyrene	**1.63**	1.11	10.2	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.63	10.2	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	10.9	*10.7 %*	*16.7-116*	"	CRLV	"	"	"	*SR05*
2-Fluorobiphenyl	17.7	*34.7 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	10.6	*10.4 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	15.5	*30.3 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	12.3	*12.1 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	14.4	*28.2 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D04042	BSF	04/01/2022 08:00	04/01/2022 19:42	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RC-2

2203540-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.2	*96.3 %*	*83.9-122*	*2D04042*	BSF	*04/01/2022 08:00*	"	"	
1,2-Dichloroethane-d4	48.6	*97.2 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.6	*97.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	53.3	*107 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RC-3

2203540-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**197**	0.946	5.00	mg/L	10.0	2C31022	DLW	03/30/2022 14:23	03/30/2022 18:55	SM 4110B 2011	
Nitrate as N	**5.25**	0.197	5.00	"	"	"	DLW	"	"	"	
Ammonia as N	**9.77**	0.03	0.21	"	1.0	2C31028	CRG	03/31/2022 12:00	03/31/2022 14:12	Lachat 10-107-06-1-I	
pH	**6.55**			pH Units	"	2C30041	CRG	03/30/2022 11:22	03/30/2022 11:22	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**962**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D01020	CLB	04/01/2022 12:15	04/06/2022 17:42	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RC-3

2203540-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**2620**	123	1090	ug/L	100.0	2D06008	CRLV	04/05/2022 08:44	04/11/2022 14:54	EPA 8270D	
Acenaphthylene	**23.7**	1.16	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	
Anthracene	**352**	10.7	109	"	10.0	"	CRLV	"	04/09/2022 05:16	"	
Benzo (a) anthracene	**581**	9.46	109	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**347**	11.2	109	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**165**	11.0	109	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**237**	10.6	109	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.24	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	
Carbazole	**601**	9.75	109	"	10.0	"	CRLV	"	04/09/2022 05:16	"	
4-Chloro-3-methylphenol	ND	1.13	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	
Chrysene	**389**	10.0	109	"	10.0	"	CRLV	"	04/09/2022 05:16	"	
Dibenz (a,h) anthracene	**30.8**	0.73	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	
Dibenzofuran	**940**	11.3	109	"	10.0	"	CRLV	"	04/09/2022 05:16	"	
2,4-Dimethylphenol	**34.2**	0.91	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	
2,4-Dinitrophenol	ND	3.32	10.9	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.47	10.9	"	"	"	CRLV	"	"	"	
Fluoranthene	**3170**	102	1090	"	100.0	"	CRLV	"	04/11/2022 14:54	"	
Fluorene	**2390**	110	1090	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**77.9**	0.96	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	
2-Methylnaphthalene	**726**	12.2	109	"	10.0	"	CRLV	"	04/09/2022 05:16	"	
2-Methylphenol	**128**	9.57	109	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	**39.4**	0.95	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	
Naphthalene	**3260**	118	1090	"	100.0	"	CRLV	"	04/11/2022 14:54	"	
Pentachlorophenol	ND	29.6	109	"	10.0	"	CRLV	"	04/09/2022 05:16	"	
Phenanthrene	**5500**	101	1090	"	100.0	"	CRLV	"	04/11/2022 14:54	"	
Pyrene	**3920**	118	1090	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.80	10.9	"	1.0	"	CRLV	"	04/09/2022 06:57	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RC-3

2203540-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	70.3	*64.7 %*	*16.7-116*			*2D06008*	CRLV	*04/05/2022 08:44*	"	"	
2-Fluorobiphenyl	37.1	*68.3 %*	*16.9-105*			"	CRLV	"	"	"	
2-Fluorophenol	26.9	*24.8 %*	*10-100*			"	CRLV	"	"	"	
Nitrobenzene-d5	35.2	*64.8 %*	*10-100*			"	CRLV	"	"	"	
Phenol-d5	32.0	*29.4 %*	*10-112*			"	CRLV	"	"	"	
Terphenyl-dl4	19.5	*35.9 %*	*10-105*			"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**18.3**	0.258	5.00	ug/L	1.0	2D04042	BSF	04/01/2022 08:00	04/01/2022 20:05	EPA 8260D	
Ethylbenzene	**42.5**	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	48.3	*96.7 %*	*83.9-122*			"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.6	*97.2 %*	*87.4-116*			"	BSF	"	"	"	
Toluene-d8	49.7	*99.3 %*	*81.4-118*			"	BSF	"	"	"	
4-Bromofluorobenzene	54.7	*109 %*	*80.4-119*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RW-6

2203540-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**14.4**	0.189	1.00	mg/L	2.0	2C31022	DLW	03/30/2022 14:23	03/30/2022 19:27	SM 4110B 2011	
Nitrate as N	**1.43**	0.039	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	**2.11**	0.03	0.21	"	1.0	2C31028	CRG	03/31/2022 12:00	03/31/2022 14:14	Lachat 10-107-06-1-I	
pH	**7.56**			pH Units	"	2C30041	CRG	03/30/2022 11:24	03/30/2022 11:24	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**321**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RW-6

2203540-05 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**1020**	12.4	110	ug/L	10.0	2D06008	CRLV	04/05/2022 08:44	04/09/2022 04:41	EPA 8270D	
Acenaphthylene	**30.7**	11.7	110	"	"	"	CRLV	"	"	"	J
Anthracene	**2380**	108	1100	"	100.0	"	CRLV	"	04/11/2022 15:28	"	
Benzo (a) anthracene	**405**	9.53	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	
Benzo (b) fluoranthene	**197**	11.3	110	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**78.1**	1.11	11.0	"	1.0	"	CRLV	"	04/09/2022 07:31	"	
Benzo (a) pyrene	**102**	1.07	11.0	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.25	11.0	"	"	"	CRLV	"	"	"	
Carbazole	**209**	9.82	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	
4-Chloro-3-methylphenol	ND	1.14	11.0	"	1.0	"	CRLV	"	04/09/2022 07:31	"	
Chrysene	**620**	10.1	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	
Dibenz (a,h) anthracene	**12.6**	0.73	11.0	"	1.0	"	CRLV	"	04/09/2022 07:31	"	
Dibenzofuran	**700**	11.4	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	
2,4-Dimethylphenol	ND	0.92	11.0	"	1.0	"	CRLV	"	04/09/2022 07:31	"	
2,4-Dinitrophenol	ND	33.4	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	
Di-n-octyl phthalate	ND	1.48	11.0	"	1.0	"	CRLV	"	04/09/2022 07:31	"	
Fluoranthene	**2670**	102	1100	"	100.0	"	CRLV	"	04/11/2022 15:28	"	
Fluorene	**1890**	111	1100	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**30.5**	0.97	11.0	"	1.0	"	CRLV	"	04/09/2022 07:31	"	
2-Methylnaphthalene	**320**	12.3	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	
2-Methylphenol	**6.64**	0.96	11.0	"	1.0	"	CRLV	"	04/09/2022 07:31	"	J
3 & 4-Methylphenol	**5.59**	0.96	11.0	"	"	"	CRLV	"	"	"	J
Naphthalene	**105**	1.19	11.0	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	29.8	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	
Phenanthrene	**4580**	102	1100	"	100.0	"	CRLV	"	04/11/2022 15:28	"	
Pyrene	**2940**	119	1100	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	28.3	110	"	10.0	"	CRLV	"	04/09/2022 04:41	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Mobile/RW-6

2203540-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Surrogate	***Result***	***% Rec***		***Rec Limits***		***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	43.8	*40.0 %*		*16.7-116*		*2D06008*	CRLV	*04/05/2022 08:44*	"	"	
2-Fluorobiphenyl	30.2	*55.2 %*		*16.9-105*		"	CRLV	"	"	"	
2-Fluorophenol	27.1	*24.7 %*		*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	25.3	*46.2 %*		*10-100*		"	CRLV	"	*04/09/2022 07:31*	"	
Phenol-d5	31.4	*28.7 %*		*10-112*		"	CRLV	"	"	"	
Terphenyl-dl4	19.6	*35.8 %*		*10-105*		"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**7.22**	0.258	5.00	ug/L	1.0	2D04042	BSF	04/01/2022 08:00	04/01/2022 20:29	EPA 8260D	
Ethylbenzene	**183**	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***		***Rec Limits***		***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	47.4	*94.8 %*		*83.9-122*		"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.5	*95.0 %*		*87.4-116*		"	BSF	"	"	"	
Toluene-d8	49.1	*98.2 %*		*81.4-118*		"	BSF	"	"	"	
4-Bromofluorobenzene	52.7	*105 %*		*80.4-119*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Trip Blank TBV#6904

2203540-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D04042	BSF	04/01/2022 08:00	04/01/2022 20:53	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.2	*96.3 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.1	*100 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.6	*97.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.2	*102 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06010 - EPA 3510C DCN 4000 Rev 12											
Blank (2D06010-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.170*			"	*0.200*		*85.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0700*			"	*0.200*		*35.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.240*			"	*0.200*		*120*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06010 - EPA 3510C DCN 4000 Rev 12											
LCS (2D06010-BS1)											
Naphthalene	0.33	0.02	0.05	ug/L	0.200		165	10-170			
2-Methylnaphthalene	0.24	0.05	0.05	"	0.200		120	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.19	0.02	0.05	"	0.200		95.0	10-143			
Fluorene	0.21	0.02	0.12	"	0.200		105	10-150			
Phenanthrene	0.31	0.02	0.06	"	0.200		155	10-170			
Anthracene	0.22	0.02	0.06	"	0.200		110	10-130			
Fluoranthene	0.29	0.03	0.06	"	0.200		145	10-155			
Pyrene	0.31	0.02	0.05	"	0.200		155	10-160			
Benzo (a) anthracene	0.15	0.02	0.06	"	0.200		75.0	38.5-141			
Chrysene	0.16	0.03	0.05	"	0.200		80.0	45.4-150			
Benzo (b) fluoranthene	0.17	0.03	0.05	"	0.200		85.0	33.6-160			
Benzo (k) fluoranthene	0.07	0.02	0.05	"	0.200		35.0	33-159			
Benzo (a) pyrene	0.11	0.02	0.06	"	0.200		55.0	10-177			
Indeno (1,2,3-cd) pyrene	0.06	0.02	0.17	"	0.200		30.0	10.7-171			
Dibenz (a,h) anthracene	0.05	0.04	0.16	"	0.200		25.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.140*			"	*0.200*		*70.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0700*			"	*0.200*		*35.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.190*			"	*0.200*		*95.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06010 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D06010-BSD1)											
Naphthalene	0.30	0.02	0.05	ug/L	0.200		150	10-170	9.52	40	
2-Methylnaphthalene	0.23	0.05	0.05	"	0.200		115	50-150	4.26	40	
Acenaphthylene	0.15	0.01	0.06	"	0.200		75.0	10-147	6.90	40	
Acenaphthene	0.20	0.02	0.05	"	0.200		100	10-143	5.13	40	
Fluorene	0.22	0.02	0.12	"	0.200		110	10-150	4.65	40	
Phenanthrene	0.30	0.02	0.06	"	0.200		150	10-170	3.28	40	
Anthracene	0.22	0.02	0.06	"	0.200		110	10-130	0.00	40	
Fluoranthene	0.31	0.03	0.06	"	0.200		155	10-155	6.67	40	
Pyrene	0.31	0.02	0.05	"	0.200		155	10-160	0.00	40	
Benzo (a) anthracene	0.18	0.02	0.06	"	0.200		90.0	38.5-141	18.2	40	
Chrysene	0.20	0.03	0.05	"	0.200		100	45.4-150	22.2	40	
Benzo (b) fluoranthene	0.20	0.03	0.05	"	0.200		100	33.6-160	16.2	40	
Benzo (k) fluoranthene	0.08	0.02	0.05	"	0.200		40.0	33-159	13.3	40	
Benzo (a) pyrene	0.13	0.02	0.06	"	0.200		65.0	10-177	16.7	40	
Indeno (1,2,3-cd) pyrene	0.06	0.02	0.17	"	0.200		30.0	10.7-171	0.00	40	
Dibenz (a,h) anthracene	0.06	0.04	0.16	"	0.200		30.0	16-164	18.2	40	
Surrogate: 2-Fluorobiphenyl	*0.150*			"	*0.200*		*75.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0600*			"	*0.200*		*30.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.240*			"	*0.200*		*120*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06010 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D06010-DUP1)			**Source: 2203540-02**								
Naphthalene	ND	0.02	0.05	ug/L		ND				45	
2-Methylnaphthalene	0.94	0.05	0.05	"		0.25			116	45	
Acenaphthylene	30.0	0.01	0.06	"		34.8			14.8	45	
Acenaphthene	872	0.02	0.05	"		924			5.71	45	
Fluorene	425	0.02	0.13	"		364			15.6	45	
Phenanthrene	70.5	0.02	0.06	"		50.9			32.4	45	
Anthracene	36.9	0.02	0.06	"		52.0			34.0	45	
Fluoranthene	130	0.03	0.06	"		174			28.8	45	
Pyrene	119	0.02	0.05	"		162			30.1	45	
Benzo (a) anthracene	82.3	0.03	0.06	"		125			41.6	45	
Chrysene	62.8	0.03	0.05	"		99.1			44.9	45	
Benzo (b) fluoranthene	41.1	0.03	0.05	"		52.4			24.2	45	
Benzo (k) fluoranthene	17.4	0.03	0.05	"		22.1			24.1	45	
Benzo (a) pyrene	21.0	0.02	0.06	"		27.2			25.4	45	
Indeno (1,2,3-cd) pyrene	3.09	0.03	0.18	"		4.00			25.6	45	
Dibenz (a,h) anthracene	1.22	0.04	0.17	"		1.65			30.1	45	
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*0.208*			*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0625*			"	*0.208*		*30.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.563*			"	*0.208*		*270*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C30041 - Default Prep GenChem											
Duplicate (2C30041-DUP1)		**Source: 2203540-02**									
pH	9.57			pH Units		9.51			0.629	5	HT-02
Batch 2C31022 - Default Prep GenChem											
Blank (2C31022-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
LCS (2C31022-BS1)											
Chloride	10.1	0.095	0.500	mg/L	10.0		101	86.3-109			
Nitrate as N	2.25	0.020	0.500	"	2.26		99.3	81.7-111			
LCS Dup (2C31022-BSD1)											
Chloride	10.2	0.095	0.500	mg/L	10.0		102	86.3-109	1.38	20	
Nitrate as N	2.25	0.020	0.500	"	2.26		99.3	81.7-111	0.00	20	
Duplicate (2C31022-DUP1)		**Source: 2203540-01**									
Chloride	5.37	0.095	0.500	mg/L		4.80			11.2	20	
Nitrate as N	0.776	0.020	0.500	"		0.766			1.30	20	
Matrix Spike (2C31022-MS1)		**Source: 2203540-01**									
Chloride	18.1	0.095	0.500	mg/L	12.0	4.80	111	76.2-122			
Nitrate as N	2.01	0.020	0.500	"	2.71	0.766	45.9	60.8-130			M2
Matrix Spike Dup (2C31022-MSD1)		**Source: 2203540-01**									
Chloride	17.8	0.095	0.500	mg/L	12.0	4.80	108	76.2-122	1.82	20	
Nitrate as N	2.46	0.020	0.500	"	2.71	0.766	62.6	60.8-130	20.2	20	M3

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2C31028 - Default Prep GenChem											
Blank (2C31028-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2C31028-BS1)											
Ammonia as N	5.09	0.03	0.21	mg/L	5.00		102	90-110			
LCS Dup (2C31028-BSD1)											
Ammonia as N	5.10	0.03	0.21	mg/L	5.00		102	90-110	0.196	10	
Duplicate (2C31028-DUP1)			**Source: 2203540-04**								
Ammonia as N	9.84	0.03	0.21	mg/L		9.77			0.714	10	
Duplicate (2C31028-DUP2)			**Source: 2203559-01**								
Ammonia as N	19.1	0.03	0.21	mg/L		17.8			7.27	10	
Matrix Spike (2C31028-MS1)			**Source: 2203540-01**								
Ammonia as N	4.98	0.03	0.21	mg/L	5.00	0.27	94.3	90-110			
Matrix Spike Dup (2C31028-MSD1)			**Source: 2203540-01**								
Ammonia as N	4.98	0.03	0.21	mg/L	5.00	0.27	94.3	90-110	0.00	10	
Batch 2D04047 - Default Prep GenChem											
LCS (2D04047-BS1)											
Specific Conductance (EC)	1490			uS/cm	1410		106	90-110			
Duplicate (2D04047-DUP1)			**Source: 2204028-04**								
Specific Conductance (EC)	342			umhos/cm @25.0 C		339			0.881	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D01020 - EPA 200.2 DCN 1017 Rev 10											
Blank (2D01020-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (2D01020-BS1)											
Arsenic [He]	0.098	0.00021	0.00200	mg/L	0.100		98.2	85-115			
Chromium [He]	0.098	0.00043	0.00100	"	0.100		98.1	85-115			
Lead [He]	0.098	0.00017	0.00100	"	0.100		97.5	85-115			
Nickel [He]	0.097	0.00016	0.0400	"	0.100		97.1	85-115			
LCS Dup (2D01020-BSD1)											
Arsenic [He]	0.101	0.00021	0.00200	mg/L	0.100		101	85-115	3.20	20	
Chromium [He]	0.102	0.00043	0.00100	"	0.100		102	85-115	3.49	20	
Lead [He]	0.101	0.00017	0.00100	"	0.100		101	85-115	3.49	20	
Nickel [He]	0.101	0.00016	0.0400	"	0.100		101	85-115	3.55	20	
Matrix Spike (2D01020-MS1)			**Source: 2203552-02**								
Arsenic [He]	0.119	0.00105	0.0100	mg/L	0.100	0.005	115	70-130			
Chromium [He]	0.100	0.00215	0.00500	"	0.100	ND	100	70-130			
Lead [He]	0.102	0.00017	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	0.115	0.00078	0.200	"	0.100	0.004	111	70-130			
Matrix Spike Dup (2D01020-MSD1)			**Source: 2203552-02**								
Arsenic [He]	0.119	0.00105	0.0100	mg/L	0.100	0.005	115	70-130	0.0544	20	
Chromium [He]	0.099	0.00215	0.00500	"	0.100	ND	98.5	70-130	1.55	20	
Lead [He]	0.103	0.00017	0.00100	"	0.100	ND	103	70-130	0.489	20	
Nickel [He]	0.113	0.00078	0.200	"	0.100	0.004	109	70-130	1.17	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06008 - EPA 3510C DCN 4000 Rev 12											
Blank (2D06008-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	0.93	0.87	10.0	"							J
Benzo (b) fluoranthene	1.25	1.03	10.0	"							J
Benzo (k) fluoranthene	1.19	1.01	10.0	"							J
Benzo (a) pyrene	1.06	0.98	10.0	"							J
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	0.99	0.67	10.0	"							J
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	1.08	0.89	10.0	"							J
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	3.41	1.09	10.0	"							J
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*12.5*			"	*100*		*12.5*	*16.7-116*			*SR16*
Surrogate: 2-Fluorobiphenyl	*22.7*			"	*50.0*		*45.4*	*16.9-105*			
Surrogate: 2-Fluorophenol	*5.03*			"	*100*		*5.03*	*10-100*			*SR16*
Surrogate: Nitrobenzene-d5	*25.4*			"	*50.0*		*50.8*	*10-100*			
Surrogate: Phenol-d5	*5.97*			"	*100*		*5.97*	*10-112*			*SR16*
Surrogate: Terphenyl-dl4	*17.4*			"	*50.0*		*34.8*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06008 - EPA 3510C DCN 4000 Rev 12											
LCS (2D06008-BS1)											
Acenaphthene	70.1	1.13	10.0	ug/L	100		70.1	36.1-108			
Acenaphthylene	66.8	1.07	10.0	"	100		66.8	34.6-109			
Anthracene	70.0	0.99	10.0	"	100		70.0	36.4-106			
Benzo (a) anthracene	72.4	0.87	10.0	"	100		72.4	42.9-101			
Benzo (b) fluoranthene	77.2	1.03	10.0	"	100		77.2	43.7-105			
Benzo (k) fluoranthene	71.1	1.01	10.0	"	100		71.1	38.1-112			
Benzo (a) pyrene	77.2	0.98	10.0	"	100		77.2	46.5-104			
Bis(2-ethylhexyl)phthalate	77.0	1.14	10.0	"	100		77.0	25.1-113			
Carbazole	83.0	0.90	10.0	"	100		83.0	5.43-162			
4-Chloro-3-methylphenol	72.9	1.04	10.0	"	100		72.9	39.1-106			
Chrysene	67.5	0.92	10.0	"	100		67.5	43.2-103			
Dibenz (a,h) anthracene	78.7	0.67	10.0	"	100		78.7	31-119			
Dibenzofuran	68.7	1.04	10.0	"	100		68.7	37.6-110			
2,4-Dimethylphenol	67.6	0.84	10.0	"	100		67.6	36-100			
2,4-Dinitrophenol	96.1	3.05	10.0	"	100		96.1	10.5-124			
Di-n-octyl phthalate	78.5	1.35	10.0	"	100		78.5	33.6-111			
Fluoranthene	70.2	0.93	10.0	"	100		70.2	26.4-121			
Fluorene	73.0	1.01	10.0	"	100		73.0	36.9-109			
Indeno (1,2,3-cd) pyrene	84.4	0.89	10.0	"	100		84.4	35.6-116			
2-Methylnaphthalene	46.5	1.12	10.0	"	100		46.5	34.3-102			
2-Methylphenol	62.7	0.88	10.0	"	100		62.7	35-101			
3 & 4-Methylphenol	123	0.87	10.0	"	200		61.6	29.4-107			
Naphthalene	62.6	1.09	10.0	"	100		62.6	36.8-100			
Pentachlorophenol	60.1	2.72	10.0	"	100		60.1	15.1-115			
Phenanthrene	69.0	0.93	10.0	"	100		69.0	36.4-110			
Pyrene	68.4	1.09	10.0	"	100		68.4	23.9-114			
2,4,6-Trichlorophenol	70.2	2.58	10.0	"	100		70.2	36-104			
Surrogate: 2,4,6-Tribromophenol	*64.9*			"	*100*		*64.9*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*28.9*			"	*50.0*		*57.7*	*16.9-105*			
Surrogate: 2-Fluorophenol	*33.5*			"	*100*		*33.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*28.2*			"	*50.0*		*56.3*	*10-100*			
Surrogate: Phenol-d5	*27.1*			"	*100*		*27.1*	*10-112*			
Surrogate: Terphenyl-dl4	*22.4*			"	*50.0*		*44.9*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06008 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D06008-BSD1)											
Acenaphthene	64.3	1.13	10.0	ug/L	100		64.3	36.1-108	8.65	40	
Acenaphthylene	54.2	1.07	10.0	"	100		54.2	34.6-109	20.7	40	
Anthracene	63.6	0.99	10.0	"	100		63.6	36.4-106	9.55	40	
Benzo (a) anthracene	76.5	0.87	10.0	"	100		76.5	42.9-101	5.56	40	
Benzo (b) fluoranthene	68.4	1.03	10.0	"	100		68.4	43.7-105	12.0	40	
Benzo (k) fluoranthene	57.4	1.01	10.0	"	100		57.4	38.1-112	21.4	40	
Benzo (a) pyrene	64.0	0.98	10.0	"	100		64.0	46.5-104	18.7	40	
Bis(2-ethylhexyl)phthalate	57.8	1.14	10.0	"	100		57.8	25.1-113	28.4	40	
Carbazole	65.1	0.90	10.0	"	100		65.1	5.43-162	24.2	40	
4-Chloro-3-methylphenol	54.0	1.04	10.0	"	100		54.0	39.1-106	29.9	40	
Chrysene	84.4	0.92	10.0	"	100		84.4	43.2-103	22.2	40	
Dibenz (a,h) anthracene	53.2	0.67	10.0	"	100		53.2	31-119	38.6	40	
Dibenzofuran	58.3	1.04	10.0	"	100		58.3	37.6-110	16.4	40	
2,4-Dimethylphenol	53.5	0.84	10.0	"	100		53.5	36-100	23.4	40	
2,4-Dinitrophenol	49.9	3.05	10.0	"	100		49.9	10.5-124	63.3	40	L3
Di-n-octyl phthalate	56.0	1.35	10.0	"	100		56.0	33.6-111	33.4	40	
Fluoranthene	105	0.93	10.0	"	100		105	26.4-121	39.8	40	
Fluorene	64.9	1.01	10.0	"	100		64.9	36.9-109	11.8	40	
Indeno (1,2,3-cd) pyrene	61.2	0.89	10.0	"	100		61.2	35.6-116	31.9	40	
2-Methylnaphthalene	34.5	1.12	10.0	"	100		34.5	34.3-102	29.7	40	
2-Methylphenol	44.6	0.88	10.0	"	100		44.6	35-101	33.8	40	
3 & 4-Methylphenol	88.3	0.87	10.0	"	200		44.2	29.4-107	33.0	40	
Naphthalene	49.4	1.09	10.0	"	100		49.4	36.8-100	23.7	40	
Pentachlorophenol	27.2	2.72	10.0	"	100		27.2	15.1-115	75.5	40	L3
Phenanthrene	90.1	0.93	10.0	"	100		90.1	36.4-110	26.5	40	
Pyrene	95.1	1.09	10.0	"	100		95.1	23.9-114	32.6	40	
2,4,6-Trichlorophenol	50.2	2.58	10.0	"	100		50.2	36-104	33.2	40	
Surrogate: 2,4,6-Tribromophenol	*46.2*			"	*100*		*46.2*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*24.3*			"	*50.0*		*48.7*	*16.9-105*			
Surrogate: 2-Fluorophenol	*30.4*			"	*100*		*30.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*21.3*			"	*50.0*		*42.7*	*10-100*			
Surrogate: Phenol-d5	*20.3*			"	*100*		*20.3*	*10-112*			
Surrogate: Terphenyl-dl4	*18.7*			"	*50.0*		*37.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06008 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D06008-MS1)		**Source: 2203540-04**									
Acenaphthene	865	11.5	102	ug/L	102	2620	NR	10-121			M5
Acenaphthylene	59.8	1.09	10.2	"	102	23.7	35.5	19-110			
Anthracene	324	10.1	102	"	102	352	NR	16.1-116			M5
Benzo (a) anthracene	241	8.85	102	"	102	581	NR	27.7-107			M5
Benzo (b) fluoranthene	156	10.5	102	"	102	347	NR	23.3-117			M5
Benzo (k) fluoranthene	79.1	1.03	10.2	"	102	165	NR	20.4-113			M5
Benzo (a) pyrene	130	9.93	102	"	102	237	NR	34.6-101			M5
Bis(2-ethylhexyl)phthalate	56.8	1.16	10.2	"	102	ND	55.9	10-108			
Carbazole	566	9.13	102	"	102	601	NR	10-159			M5
4-Chloro-3-methylphenol	42.4	1.06	10.2	"	102	ND	41.7	19.8-110			
Chrysene	210	9.39	102	"	102	389	NR	25.6-113			M5
Dibenz (a,h) anthracene	54.3	0.68	10.2	"	102	30.8	23.2	15.9-129			
Dibenzofuran	527	10.6	102	"	102	940	NR	10-115			M5
2,4-Dimethylphenol	74.3	0.86	10.2	"	102	34.2	39.4	17.2-115			
2,4-Dinitrophenol	44.3	3.10	10.2	"	102	ND	43.5	10-129			
Di-n-octyl phthalate	49.8	1.37	10.2	"	102	ND	49.0	21.1-102			
Fluoranthene	826	9.50	102	"	102	3170	NR	15-119			M5
Fluorene	737	10.3	102	"	102	2390	NR	10-125			M5
Indeno (1,2,3-cd) pyrene	71.5	0.90	10.2	"	102	77.9	NR	18.2-129			M5
2-Methylnaphthalene	448	11.4	102	"	102	726	NR	10-117			M5
2-Methylphenol	178	8.95	102	"	102	128	49.2	10-106			
3 & 4-Methylphenol	126	8.87	102	"	203	39.4	42.7	10-102			
Naphthalene	1270	11.1	102	"	102	3260	NR	19.6-98.1			M5
Pentachlorophenol	78.7	2.77	10.2	"	102	ND	77.4	10-125			
Phenanthrene	1200	9.44	102	"	102	5500	NR	16.9-120			M5
Pyrene	566	11.1	102	"	102	3920	NR	12.3-105			M5
2,4,6-Trichlorophenol	50.9	2.62	10.2	"	102	ND	50.0	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*54.8*			"	*102*		*53.9*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*24.4*			"	*50.9*		*48.0*	*16.9-105*			
Surrogate: 2-Fluorophenol	*21.6*			"	*102*		*21.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*22.3*			"	*50.9*		*43.8*	*10-100*			
Surrogate: Phenol-d5	*20.9*			"	*102*		*20.5*	*10-112*			
Surrogate: Terphenyl-dl4	*17.6*			"	*50.9*		*34.6*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06009 - EPA 3510C DCN 4000 Rev 12											
Blank (2D06009-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*10.1*			"	*10.0*		*101*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*4.85*			"	*5.00*		*97.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*5.53*			"	*10.0*		*55.3*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.72*			"	*5.00*		*74.4*	*18.4-100*			
Surrogate: Phenol-d5	*3.87*			"	*10.0*		*38.7*	*10-126*			
Surrogate: Terphenyl-dl4	*3.37*			"	*5.00*		*67.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06009 - EPA 3510C DCN 4000 Rev 12											
LCS (2D06009-BS1)											
Acenaphthene	11.5	0.16	1.08	ug/L	10.0		115	21.2-130			
Acenaphthylene	11.0	0.11	1.16	"	10.0		110	17.4-130			
Anthracene	11.9	0.13	1.29	"	10.0		119	19.4-135			
Benzo (a) anthracene	11.5	0.18	0.92	"	10.0		115	31.6-130			
Benzo (b) fluoranthene	10.7	0.18	1.43	"	10.0		107	24.6-128			
Benzo (k) fluoranthene	11.7	0.17	0.85	"	10.0		117	19.5-135			
Benzo (a) pyrene	10.7	0.20	1.25	"	10.0		107	34.2-130			
Bis(2-ethylhexyl)phthalate	12.6	0.37	1.08	"	10.0		126	42.2-137			
Carbazole	12.3	2.62	7.86	"	10.0		123	30.1-145			
4-Chloro-3-methylphenol	12.0	0.27	1.65	"	10.0		120	43.1-130			
Chrysene	11.5	0.15	0.89	"	10.0		115	42.1-130			
Dibenz (a,h) anthracene	11.0	0.25	1.78	"	10.0		110	23.1-136			
Dibenzofuran	11.6	0.40	1.20	"	10.0		116	25-127			
2,4-Dimethylphenol	11.9	0.19	1.05	"	10.0		119	31.6-140			
2,4-Dinitrophenol	7.56	1.29	4.32	"	10.0		75.6	22.1-108			
Di-n-octyl phthalate	12.5	0.29	1.70	"	10.0		125	42.9-132			
Fluoranthene	13.5	0.20	1.50	"	10.0		135	47.7-150			
Fluorene	11.9	0.16	1.19	"	10.0		119	49.1-130			
Indeno (1,2,3-cd) pyrene	10.5	0.25	1.63	"	10.0		105	27.8-136			
2-Methylnaphthalene	10.8	0.05	1.28	"	10.0		108	22.3-130			
2-Methylphenol	9.78	0.41	1.24	"	10.0		97.8	15.8-123			
3 & 4-Methylphenol	19.9	1.13	3.39	"	20.0		99.3	11.1-130			
Naphthalene	11.4	0.15	0.99	"	10.0		114	22.1-130			
Pentachlorophenol	7.15	0.06	1.00	"	10.0		71.5	28.8-111			
Phenanthrene	14.6	0.15	1.20	"	10.0		146	22.1-150			
Pyrene	12.2	0.22	0.58	"	10.0		122	19-135			
2,4,6-Trichlorophenol	11.7	0.44	1.32	"	10.0		117	44.4-130			
1-Methylnaphthalene	10.6	0.05	1.28	"	10.0		106	23.7-130			
Surrogate: 2,4,6-Tribromophenol	*11.2*			"	*10.0*		*112*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.26*			"	*5.00*		*105*	*21.3-115*			
Surrogate: 2-Fluorophenol	*5.91*			"	*10.0*		*59.1*	*0-200*			
Surrogate: Nitrobenzene-d5	*5.19*			"	*5.00*		*104*	*18.4-120*			
Surrogate: Phenol-d5	*4.67*			"	*10.0*		*46.7*	*10-126*			
Surrogate: Terphenyl-dl4	*3.36*			"	*5.00*		*67.2*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06009 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D06009-BSD1)											
Acenaphthene	12.5	0.16	1.08	ug/L	10.0		125	21.2-130	8.01	48	
Acenaphthylene	12.2	0.11	1.16	"	10.0		122	17.4-130	10.5	74	
Anthracene	13.3	0.13	1.29	"	10.0		133	19.4-135	10.9	66	
Benzo (a) anthracene	13.0	0.18	0.92	"	10.0		130	31.6-130	12.2	53	
Benzo (b) fluoranthene	12.7	0.18	1.43	"	10.0		127	24.6-128	17.2	71	
Benzo (k) fluoranthene	13.3	0.17	0.85	"	10.0		133	19.5-135	13.1	63	
Benzo (a) pyrene	12.4	0.20	1.25	"	10.0		124	34.2-130	14.4	72	
Bis(2-ethylhexyl)phthalate	12.8	0.37	1.08	"	10.0		128	42.2-137	1.10	82	
Carbazole	14.6	2.62	7.86	"	10.0		146	30.1-145	17.1	40	L1
4-Chloro-3-methylphenol	13.5	0.27	1.65	"	10.0		135	43.1-130	12.4	73	L1
Chrysene	12.9	0.15	0.89	"	10.0		129	42.1-130	11.5	87	
Dibenz (a,h) anthracene	12.7	0.25	1.78	"	10.0		127	23.1-136	14.6	126	
Dibenzofuran	12.4	0.40	1.20	"	10.0		124	25-127	6.99	40	
2,4-Dimethylphenol	13.5	0.19	1.05	"	10.0		135	31.6-140	12.4	58	
2,4-Dinitrophenol	1.55	1.29	4.32	"	10.0		15.5	22.1-108	132	132	L2
Di-n-octyl phthalate	13.6	0.29	1.70	"	10.0		136	42.9-132	8.44	69	L1
Fluoranthene	14.4	0.20	1.50	"	10.0		144	47.7-150	6.61	66	
Fluorene	12.8	0.16	1.19	"	10.0		128	49.1-130	7.37	38	
Indeno (1,2,3-cd) pyrene	12.1	0.25	1.63	"	10.0		121	27.8-136	14.4	99	
2-Methylnaphthalene	11.5	0.05	1.28	"	10.0		115	22.3-130	6.17	40	
2-Methylphenol	10.8	0.41	1.24	"	10.0		108	15.8-123	9.73	40	
3 & 4-Methylphenol	21.8	1.13	3.39	"	20.0		109	11.1-130	9.41	40	
Naphthalene	12.3	0.15	0.99	"	10.0		123	22.1-130	7.19	65	
Pentachlorophenol	7.61	0.06	1.00	"	10.0		76.1	28.8-111	6.23	86	
Phenanthrene	14.1	0.15	1.20	"	10.0		141	22.1-150	3.35	39	
Pyrene	13.4	0.22	0.58	"	10.0		134	19-135	8.91	49	
2,4,6-Trichlorophenol	12.8	0.44	1.32	"	10.0		128	44.4-130	9.39	58	
1-Methylnaphthalene	11.7	0.05	1.28	"	10.0		117	23.7-130	9.72	40	
Surrogate: 2,4,6-Tribromophenol	*12.2*			"	*10.0*		*122*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.56*			"	*5.00*		*111*	*21.3-115*			
Surrogate: 2-Fluorophenol	*6.31*			"	*10.0*		*63.1*	*0-200*			
Surrogate: Nitrobenzene-d5	*5.56*			"	*5.00*		*111*	*18.4-120*			
Surrogate: Phenol-d5	*5.05*			"	*10.0*		*50.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.57*			"	*5.00*		*71.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06009 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D06009-DUP1)			**Source: 2203540-02**								
Acenaphthene	127	0.18	1.17	ug/L		142			11.5	45	
Acenaphthylene	3.57	0.12	1.26	"		4.15			14.9	45	
Anthracene	43.4	0.14	1.40	"		55.8			25.1	45	
Benzo (a) anthracene	111	0.20	1.00	"		153			31.8	45	
Benzo (b) fluoranthene	74.5	0.20	1.55	"		115			42.4	45	
Benzo (k) fluoranthene	32.0	0.19	0.92	"		36.8			13.9	45	
Benzo (a) pyrene	53.9	0.22	1.36	"		74.9			32.7	45	
Bis(2-ethylhexyl)phthalate	ND	0.40	1.17	"		ND				45	
Carbazole	3.51	2.84	8.53	"		81.1			183	45	P3
4-Chloro-3-methylphenol	ND	0.30	1.79	"		ND				45	
Chrysene	118	0.17	0.97	"		158			29.1	45	
Dibenz (a,h) anthracene	6.28	0.27	1.93	"		8.68			32.1	45	
Dibenzofuran	23.2	4.33	13.0	"		29.9			25.0	45	
2,4-Dimethylphenol	3.98	0.21	1.14	"		3.60			10.2	45	
2,4-Dinitrophenol	ND	1.40	4.69	"		ND				45	
Di-n-octyl phthalate	ND	0.31	1.85	"		ND				45	
Fluoranthene	375	2.19	16.3	"		570			41.2	45	
Fluorene	44.1	0.17	1.29	"		50.4			13.4	45	
Indeno (1,2,3-cd) pyrene	19.4	0.27	1.77	"		25.8			28.5	45	
2-Methylnaphthalene	1.55	0.05	1.39	"		2.53			47.8	45	P3
2-Methylphenol	ND	0.45	1.35	"		ND				45	
3 & 4-Methylphenol	ND	1.23	3.68	"		ND				45	
Naphthalene	2.04	0.17	1.07	"		2.63			25.1	45	
Pentachlorophenol	ND	0.07	1.09	"		ND				45	
Phenanthrene	79.6	0.16	1.30	"		89.4			11.5	45	
Pyrene	138	0.24	0.63	"		165			18.0	45	
2,4,6-Trichlorophenol	ND	0.48	1.43	"		ND				45	
1-Methylnaphthalene	2.31	0.05	1.39	"		3.74			47.2	45	P3
Surrogate: 2,4,6-Tribromophenol	*11.0*			"	*10.9*		*101*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.32*			"	*5.43*		*98.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.25*			"	*10.9*		*57.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.74*			"	*5.43*		*87.4*	*18.4-100*			
Surrogate: Phenol-d5	*4.43*			"	*10.9*		*40.8*	*10-126*			
Surrogate: Terphenyl-dl4	*2.56*			"	*5.43*		*47.2*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D04042 - EPA 5030B											
Blank (2D04042-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*47.8*			"	*50.0*		*95.6*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.8*			"	*50.0*		*99.7*	*87.4-116*			
Surrogate: Toluene-d8	*51.2*			"	*50.0*		*102*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.2*			"	*50.0*		*100*	*80.4-119*			
Blank (2D04042-BLK2)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.6*			"	*50.0*		*99.1*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.4*			"	*50.0*		*105*	*87.4-116*			
Surrogate: Toluene-d8	*47.4*			"	*50.0*		*94.8*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*53.6*			"	*50.0*		*107*	*80.4-119*			
LCS (2D04042-BS1)											
Benzene	19.9	0.258	5.00	ug/L	20.0		99.7	64.2-144			
Ethylbenzene	19.6	0.190	5.00	"	20.0		98.1	64.9-150			
Surrogate: Dibromofluoromethane	*48.8*			"	*50.0*		*97.6*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*			"	*50.0*		*105*	*87.4-116*			
Surrogate: Toluene-d8	*47.4*			"	*50.0*		*94.9*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.4*			"	*50.0*		*103*	*80.4-119*			
LCS (2D04042-BS2)											
Benzene	19.8	0.258	5.00	ug/L	20.0		99.0	64.2-144			
Ethylbenzene	19.6	0.190	5.00	"	20.0		97.9	64.9-150			
Surrogate: Dibromofluoromethane	*50.8*			"	*50.0*		*102*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.7*			"	*50.0*		*105*	*87.4-116*			
Surrogate: Toluene-d8	*45.9*			"	*50.0*		*91.8*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*54.7*			"	*50.0*		*109*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D04042 - EPA 5030B											
LCS Dup (2D04042-BSD1)											
Benzene	19.8	0.258	5.00	ug/L	20.0		99.0	64.2-144	0.654	30	
Ethylbenzene	19.7	0.190	5.00	"	20.0		98.7	64.9-150	0.610	30	
Surrogate: Dibromofluoromethane	*50.1*			"	*50.0*		*100*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*47.7*			"	*50.0*		*95.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*52.6*			"	*50.0*		*105*	*80.4-119*			
LCS Dup (2D04042-BSD2)											
Benzene	20.2	0.258	5.00	ug/L	20.0		101	64.2-144	1.90	30	
Ethylbenzene	19.7	0.190	5.00	"	20.0		98.3	64.9-150	0.459	30	
Surrogate: Dibromofluoromethane	*50.7*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.7*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*45.8*			"	*50.0*		*91.6*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*54.9*			"	*50.0*		*110*	*80.4-119*			
Matrix Spike (2D04042-MS1)			**Source: 2203503-01**								
Benzene	19.8	0.258	5.00	ug/L	20.0	ND	99.1	70-149			
Ethylbenzene	19.1	0.190	5.00	"	20.0	ND	95.4	70.2-150			
Surrogate: Dibromofluoromethane	*49.9*			"	*50.0*		*99.7*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.5*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*46.0*			"	*50.0*		*91.9*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*53.8*			"	*50.0*		*108*	*80.4-119*			
Matrix Spike Dup (2D04042-MSD1)			**Source: 2203503-01**								
Benzene	20.0	0.258	5.00	ug/L	20.0	ND	99.8	70-149	0.754	35	
Ethylbenzene	19.5	0.190	5.00	"	20.0	ND	97.7	70.2-150	2.43	35	
Surrogate: Dibromofluoromethane	*49.9*			"	*50.0*		*99.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.6*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*46.2*			"	*50.0*		*92.3*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*53.7*			"	*50.0*		*107*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:58

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 11:58

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 11:58

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Camie Bourne	CLB
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Howard Mitch Spicer	HMS
Sarah E. Tomek	SET
Stella S Kleist	SSK
Steven Tobias	SWT
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2203540

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
_×_Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
T-1	3-29-22/9:50	W	7	G	X	X	X	X	X	X	X
RW-3A	3-29-22/10:30	W	9	G	X	X	X	X	X	X	X
RC-2	3-29-22/13:00	W	7	G	X	X	X	X	X	X	X
RC-3	3-29-22/14:10	W	7	G	X	X	X	X	X	X	X
RW-6	3-29-22/16:30	W	6	G	X	X	X	X		X	X
TBV#6904	3-29-22/9:50	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y / N Thermometer# 5 Cooler #____ Receipt Temp Corrected(°C)
Date & Time _____ By: _____ Sample____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	3-30-22	8:15
Received by	Sarah Tomek	Sarah Tomek	MM	3/30/22	0815
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 -0.1°c
client cooler #2 0.0°c

DCN# F316 Rev.#5

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2204028

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 04/04/2022 09:05. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/UG-2	2204028-01	Water	04/03/2022 09:30	*Jeff Gonsoulin*	04/04/2022 09:05
Mobile/RW-5	2204028-02	Water	04/03/2022 10:00	*Jeff Gonsoulin*	04/04/2022 09:05
Mobile/RW-4	2204028-03	Water	04/03/2022 10:30	*Jeff Gonsoulin*	04/04/2022 09:05
Mobile/B-25	2204028-04	Water	04/03/2022 12:00	*Jeff Gonsoulin*	04/04/2022 09:05
Mobile/B-36	2204028-05	Water	04/03/2022 12:40	*Jeff Gonsoulin*	04/04/2022 09:05
Mobile/E-2	2204028-06	Water	04/03/2022 14:00	*Jeff Gonsoulin*	04/04/2022 09:05
Trip Blank TBV#6902	2204028-07	Water	04/03/2022 09:30	*Micro Methods*	04/04/2022 09:05

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Sample Receipt Conditions

Date/Time Received: 4/4/2022 9:05:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 4/4/2022 9:53:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: James Davis
Logged by: Sarah E. Tomek
Receipt Temperature: -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Cooler ID: client cooler #2

Receipt Temperature: 0.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Cooler ID: client cooler #3

Receipt Temperature: 0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:00

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:00

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2-Methylnaphthalene, Benzo (a) anthracene

2204028-01[Mobile/UG-2], 2204028-02[Mobile/RW-5], 2204028-03[Mobile/RW-4], 2204028-04[Mobile/B-25], 2204028-05[Mobile/B-36], 2204028-06[Mobile/E-2], 2D08008-BLK1

L1 LCS and/or LCSD Recovery Limit exceeded.

Phenanthrene

2D08008-BS1

M2 MS/MSD Recovery below acceptable limit.

Dibenz (a,h) anthracene

2D08008-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Naphthalene, Phenanthrene

2D08008-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5

2204028-04[Mobile/B-25], 2D08003-BS1

SR16 The surrogate recovery for this sample is outside of established control limits.

2-Fluorobiphenyl, Nitrobenzene-d5, Terphenyl-dl4

2D08008-MS1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:00

Anions-SM 4110B 2011

Qualifiers:

HT-06 The original analysis of this sample yielded QC recoveries outside acceptance criteria. It was re-analyzed after the recommended maximum hold time for confirmation of reported results.

Nitrate as N

2204028-01[Mobile/UG-2], 2204028-02[Mobile/RW-5], 2204028-03[Mobile/RW-4], 2204028-04[Mobile/B-25], 2204028-05[Mobile/B-36], 2204028-06[Mobile/E-2]

M1 MS/MSD Recovery limit exceeded.

Chloride

2D05031-MS1

M2 MS/MSD Recovery below acceptable limit.

Nitrate as N

2D06006-MS1, 2D06006-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2204028-01[Mobile/UG-2], 2204028-02[Mobile/RW-5], 2204028-03[Mobile/RW-4], 2204028-04[Mobile/B-25], 2204028-05[Mobile/B-36], 2204028-06[Mobile/E-2], 2D04044-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/UG-2

2204028-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.13**	0.02	0.05	ug/L	1.0	2D08008	CRLV	04/08/2022 13:55	04/13/2022 02:11	EPA 8270D	
2-Methylnaphthalene	**0.05**	0.05	0.05	"	"	"	CRLV	"	"	"	CC-01
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.17**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.11**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.09**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	CC-01
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.172	*80.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.129	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.247	*115 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**7.82**	0.095	0.500	mg/L	1.0	2D05031	TKM	04/04/2022 15:00	04/04/2022 18:09	SM 4110B 2011	
Nitrate as N	**0.896**	0.020	0.500	"	"	"	TKM	"	04/05/2022 23:40	"	HT-06
Ammonia as N	ND	0.03	0.21	"	"	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:36	Lachat 10-107-06-1-I	
pH	**4.36**			pH Units	"	2D04044	CRG	04/04/2022 13:31	04/04/2022 13:31	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**227**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D05040	CLB	04/05/2022 12:30	04/06/2022 15:13	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/UG-2

2204028-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.39	1.15	ug/L	1.0	2D08003	CRLV	04/08/2022 10:33	04/12/2022 01:30	EPA 8270D	
Carbazole	ND	2.79	8.36	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.76	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.42	1.28	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.12	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.37	4.60	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.31	1.81	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.44	1.32	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.20	3.61	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.06	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.47	1.40	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.85	*73.8 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	4.79	*90.0 %*	*21.3-130*	"	CRLV	"	"	"	
2-Fluorophenol	6.72	*63.2 %*	*0-130*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.34	*81.6 %*	*18.4-130*	"	CRLV	"	"	"	
Phenol-d5	4.14	*38.9 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.30	*62.0 %*	*28.8-130*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 18:46	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.8	*95.6 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.6	*95.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.8	*87.5 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	56.8	*114 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/RW-5

2204028-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D08008	CRLV	04/08/2022 13:55	04/13/2022 02:52	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	CC-01
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.06**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.06**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.05**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	CC-01
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.102	*50.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.113	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.235	*115 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**7.37**	0.095	0.500	mg/L	1.0	2D05031	TKM	04/04/2022 15:00	04/04/2022 20:16	SM 4110B 2011	
Nitrate as N	ND	0.020	0.500	"	"	"	TKM	"	04/06/2022 00:12	"	HT-06
Ammonia as N	ND	0.03	0.21	"	"	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:37	Lachat 10-107-06-1-I	
pH	**6.65**			pH Units	"	2D04044	CRG	04/04/2022 13:37	04/04/2022 13:37	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**121**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D05040	CLB	04/05/2022 12:30	04/06/2022 15:17	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/RW-5

2204028-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.38	1.12	ug/L	1.0	2D08003	CRLV	04/08/2022 10:33	04/12/2022 02:06	EPA 8270D	
Carbazole	ND	2.71	8.14	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.71	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.24	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.09	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.34	4.47	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.76	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.17	3.51	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.04	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.37	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	9.37	*90.5 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	4.52	*87.4 %*	*21.3-130*	"	CRLV	"	"	"	
2-Fluorophenol	6.10	*58.9 %*	*0-130*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.89	*75.2 %*	*18.4-130*	"	CRLV	"	"	"	
Phenol-d5	3.83	*37.0 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	4.15	*80.2 %*	*28.8-130*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 19:10	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.1	*94.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.2	*96.4 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.8	*87.5 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	56.6	*113 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/RW-4

2204028-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.05**	0.02	0.05	ug/L	1.0	2D08008	CRLV	04/08/2022 13:55	04/13/2022 03:32	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	CC-01
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.09**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.05**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	CC-01
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.127	*60.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.116	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.243	*115 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**3.15**	0.095	0.500	mg/L	1.0	2D05031	TKM	04/04/2022 15:00	04/04/2022 20:48	SM 4110B 2011	
Nitrate as N	**2.53**	0.020	0.500	"	"	"	TKM	"	04/06/2022 00:44	"	HT-06
Ammonia as N	ND	0.03	0.21	"	"	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:38	Lachat 10-107-06-1-I	
pH	**6.66**			pH Units	"	2D04044	CRG	04/04/2022 13:43	04/04/2022 13:43	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**123**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D05040	CLB	04/05/2022 12:30	04/06/2022 15:21	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/RW-4

2204028-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.39	1.16	ug/L	1.0	2D08003	CRLV	04/08/2022 10:33	04/12/2022 02:41	EPA 8270D	
Carbazole	ND	2.82	8.45	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.77	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.43	1.29	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.13	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.39	4.65	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.31	1.83	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.44	1.33	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.22	3.65	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.08	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.47	1.42	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	9.28	*86.3 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	5.71	*106 %*	*21.3-130*	"	CRLV	"	"	"	
2-Fluorophenol	8.22	*76.4 %*	*0-130*	"	CRLV	"	"	"	
Nitrobenzene-d5	5.61	*104 %*	*18.4-130*	"	CRLV	"	"	"	
Phenol-d5	5.14	*47.8 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	4.59	*85.4 %*	*28.8-130*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 19:33	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.9	*93.9 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.5	*98.9 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.6	*87.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	55.9	*112 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/B-25

2204028-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D08008	CRLV	04/08/2022 13:55	04/13/2022 04:13	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	CC-01
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.10**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.13**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.07**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	CC-01
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0731	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0209	*10.0 %*	*19.6-113*	"	CRLV	"	"	"	*SR06*
Terphenyl-dl4	0.178	*85.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**55.3**	0.473	2.50	mg/L	5.0	2D06006	TKM	04/05/2022 10:00	04/06/2022 01:16	SM 4110B 2011	
Nitrate as N	ND	0.197	5.00	"	10.0	"	TKM	"	04/06/2022 11:41	"	HT-06
Ammonia as N	ND	0.03	0.21	"	1.0	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:39	Lachat 10-107-06-1-I	
pH	**6.63**			pH Units	"	2D04044	CRG	04/04/2022 13:47	04/04/2022 13:47	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**339**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D05040	CLB	04/05/2022 12:30	04/06/2022 15:25	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/B-25

2204028-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	**1.33**	0.37	1.11	ug/L	1.0	2D08003	CRLV	04/08/2022 10:33	04/12/2022 03:17	EPA 8270D	
Carbazole	ND	2.68	8.05	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.69	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.23	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.19	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.32	4.42	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.29	1.74	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.16	3.47	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	10.2	*99.5 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	5.58	*109 %*	*21.3-130*	"	CRLV	"	"	"	
2-Fluorophenol	8.53	*83.3 %*	*0-130*	"	CRLV	"	"	"	
Nitrobenzene-d5	5.22	*102 %*	*18.4-130*	"	CRLV	"	"	"	
Phenol-d5	5.36	*52.4 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	4.40	*86.0 %*	*28.8-130*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 19:57	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.0	*94.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.9	*93.8 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.6	*87.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	56.0	*112 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/B-36

2204028-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.05**	0.02	0.05	ug/L	1.0	2D08008	CRLV	04/08/2022 13:55	04/13/2022 04:54	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	CC-01
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.09**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.08**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.06**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	CC-01
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.107	*50.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0858	*40.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.215	*100 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**85.0**	0.473	2.50	mg/L	5.0	2D06006	TKM	04/05/2022 10:00	04/06/2022 02:19	SM 4110B 2011	
Nitrate as N	**1.42**	0.099	1.00	"	"	"	TKM	"	"	"	HT-06
Ammonia as N	ND	0.03	0.21	"	1.0	2D07026	CRG	04/07/2022 09:00	04/07/2022 11:23	Lachat 10-107-06-1-I	
pH	**5.60**			pH Units	"	2D04044	CRG	04/04/2022 13:53	04/04/2022 13:53	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**478**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D05040	CLB	04/05/2022 12:30	04/06/2022 15:29	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/B-36

2204028-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.38	1.13	ug/L	1.0	2D08003	CRLV	04/08/2022 10:33	04/12/2022 03:53	EPA 8270D	
Carbazole	ND	2.75	8.24	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.73	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.10	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.35	4.53	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.78	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.30	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.18	3.55	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.05	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.38	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.70	*63.9 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.70	*51.6 %*	*21.3-130*	"	CRLV	"	"	"	
2-Fluorophenol	3.99	*38.1 %*	*0-130*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.59	*49.4 %*	*18.4-130*	"	CRLV	"	"	"	
Phenol-d5	2.87	*27.4 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.69	*70.4 %*	*28.8-130*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 20:21	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.8	*95.6 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.3	*96.6 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.7	*87.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	55.9	*112 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/E-2

2204028-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D08008	CRLV	04/08/2022 13:55	04/13/2022 05:35	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	CC-01
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.05**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.08**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.09**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.07**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	CC-01
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0942	*45.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.147	*70.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.241	*115 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**288**	2.36	12.5	mg/L	25.0	2D06006	TKM	04/05/2022 10:00	04/06/2022 03:23	SM 4110B 2011	
Nitrate as N	**7.93**	0.493	5.00	"	"	"	TKM	"	"	"	HT-06
Ammonia as N	**8.89**	0.03	0.21	"	1.0	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:40	Lachat 10-107-06-1-I	
pH	**7.01**			pH Units	"	2D04044	CRG	04/04/2022 13:56	04/04/2022 13:56	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1460**			umhos/cm @25.0 C	"	2D04047	SSK	04/04/2022 14:00	04/04/2022 14:00	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D05040	CLB	04/05/2022 12:30	04/06/2022 15:33	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00215	0.00500	"	5.0	"	CLB	"	04/06/2022 15:40	"	
Lead [He]	ND	0.00017	0.00100	"	1.0	"	CLB	"	04/06/2022 15:33	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Mobile/E-2

2204028-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	2D08003	CRLV	04/08/2022 10:33	04/12/2022 08:37	EPA 8270D	
Carbazole	ND	2.67	8.00	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.19	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.31	4.40	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.29	1.73	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.45	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.06	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	10.2	*99.8 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	4.19	*82.2 %*	*21.3-130*	"	CRLV	"	"	"	
2-Fluorophenol	4.32	*42.4 %*	*0-130*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.09	*60.6 %*	*18.4-130*	"	CRLV	"	"	"	
Phenol-d5	2.90	*28.5 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.34	*65.6 %*	*28.8-130*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 20:44	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.3	*94.7 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.5	*95.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.9	*87.7 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	57.3	*115 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Trip Blank TBV#6902

2204028-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 21:08	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.2	*94.3 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.3	*96.6 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	42.9	*85.7 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	56.5	*113 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
Blank (2D08008-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							CC-01
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							CC-01
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.150*			"	*0.200*		*75.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0900*			"	*0.200*		*45.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.180*			"	*0.200*		*90.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
LCS (2D08008-BS1)											
Naphthalene	0.24	0.02	0.05	ug/L	0.200		120	10-145			
2-Methylnaphthalene	0.24	0.05	0.05	"	0.200		120	50-150			
Acenaphthylene	0.21	0.01	0.06	"	0.200		105	10-147			
Acenaphthene	0.22	0.02	0.05	"	0.200		110	10-143			
Fluorene	0.25	0.02	0.12	"	0.200		125	10-150			
Phenanthrene	0.31	0.02	0.06	"	0.200		155	10-151			L1
Anthracene	0.25	0.02	0.06	"	0.200		125	10-130			
Fluoranthene	0.30	0.03	0.06	"	0.200		150	10-155			
Pyrene	0.29	0.02	0.05	"	0.200		145	10-148			
Benzo (a) anthracene	0.19	0.02	0.06	"	0.200		95.0	38.5-141			
Chrysene	0.24	0.03	0.05	"	0.200		120	45.4-150			
Benzo (b) fluoranthene	0.23	0.03	0.05	"	0.200		115	33.6-160			
Benzo (k) fluoranthene	0.10	0.02	0.05	"	0.200		50.0	33-159			
Benzo (a) pyrene	0.17	0.02	0.06	"	0.200		85.0	10-177			
Indeno (1,2,3-cd) pyrene	0.08	0.02	0.17	"	0.200		40.0	10.7-171			
Dibenz (a,h) anthracene	0.08	0.04	0.16	"	0.200		40.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.190*			"	*0.200*		*95.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.120*			"	*0.200*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.240*			"	*0.200*		*120*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D08008-BSD1)											
Naphthalene	0.21	0.02	0.05	ug/L	0.200		105	10-145	13.3	40	
2-Methylnaphthalene	0.19	0.05	0.05	"	0.200		95.0	50-150	23.3	40	
Acenaphthylene	0.17	0.01	0.06	"	0.200		85.0	10-147	21.1	40	
Acenaphthene	0.18	0.02	0.05	"	0.200		90.0	10-143	20.0	40	
Fluorene	0.19	0.02	0.12	"	0.200		95.0	10-150	27.3	40	
Phenanthrene	0.25	0.02	0.06	"	0.200		125	10-151	21.4	40	
Anthracene	0.20	0.02	0.06	"	0.200		100	10-130	22.2	40	
Fluoranthene	0.25	0.03	0.06	"	0.200		125	10-155	18.2	40	
Pyrene	0.26	0.02	0.05	"	0.200		130	10-148	10.9	40	
Benzo (a) anthracene	0.14	0.02	0.06	"	0.200		70.0	38.5-141	30.3	40	
Chrysene	0.17	0.03	0.05	"	0.200		85.0	45.4-150	34.1	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	24.4	40	
Benzo (k) fluoranthene	0.08	0.02	0.05	"	0.200		40.0	33-159	22.2	40	
Benzo (a) pyrene	0.12	0.02	0.06	"	0.200		60.0	10-177	34.5	40	
Indeno (1,2,3-cd) pyrene	0.08	0.02	0.17	"	0.200		40.0	10.7-171	0.00	40	
Dibenz (a,h) anthracene	0.08	0.04	0.16	"	0.200		40.0	16-164	0.00	40	
Surrogate: 2-Fluorobiphenyl	*0.160*			"	*0.200*		*80.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.110*			"	*0.200*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.210*			"	*0.200*		*105*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D08008-DUP1)			**Source: 2204028-02**								
Naphthalene	0.07	0.02	0.05	ug/L		0.04			58.3	45	P3
2-Methylnaphthalene	ND	0.05	0.05	"		ND				45	
Acenaphthylene	ND	0.01	0.06	"		ND				45	
Acenaphthene	ND	0.02	0.05	"		ND				45	
Fluorene	ND	0.02	0.13	"		ND				45	
Phenanthrene	0.12	0.02	0.06	"		0.06			62.5	45	P3
Anthracene	ND	0.02	0.06	"		ND				45	
Fluoranthene	0.07	0.03	0.06	"		0.06			19.4	45	
Pyrene	0.06	0.02	0.05	"		0.05			22.2	45	
Benzo (a) anthracene	ND	0.03	0.06	"		ND				45	
Chrysene	ND	0.03	0.05	"		ND				45	
Benzo (b) fluoranthene	ND	0.03	0.05	"		ND				45	
Benzo (k) fluoranthene	ND	0.03	0.05	"		ND				45	
Benzo (a) pyrene	ND	0.02	0.06	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"		ND				45	
Dibenz (a,h) anthracene	ND	0.04	0.17	"		ND				45	
Surrogate: 2-Fluorobiphenyl	*0.128*			"	*0.213*		*60.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0746*			"	*0.213*		*35.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.235*			"	*0.213*		*110*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D08008-MS1)		**Source: 2204028-02**									
Naphthalene	0.17	0.02	0.05	ug/L	0.210	0.04	60.5	10-182			
2-Methylnaphthalene	0.18	0.05	0.05	"	0.210	ND	85.0	0-200			
Acenaphthylene	0.16	0.01	0.06	"	0.210	ND	75.0	10-200			
Acenaphthene	0.17	0.02	0.05	"	0.210	ND	80.0	10-200			
Fluorene	0.20	0.02	0.13	"	0.210	ND	95.0	10-200			
Phenanthrene	0.24	0.02	0.06	"	0.210	0.06	85.7	46.3-156			
Anthracene	0.23	0.02	0.06	"	0.210	ND	110	12.9-149			
Fluoranthene	0.26	0.03	0.06	"	0.210	0.06	95.7	10-200			
Pyrene	0.25	0.02	0.05	"	0.210	0.05	95.6	10-191			
Benzo (a) anthracene	0.18	0.03	0.06	"	0.210	ND	85.0	19.3-191			
Chrysene	0.19	0.03	0.05	"	0.210	ND	90.0	16.5-166			
Benzo (b) fluoranthene	0.19	0.03	0.05	"	0.210	ND	90.0	17.3-163			
Benzo (k) fluoranthene	0.07	0.03	0.05	"	0.210	ND	35.0	23.7-152			
Benzo (a) pyrene	0.13	0.02	0.06	"	0.210	ND	60.0	10-200			
Indeno (1,2,3-cd) pyrene	0.05	0.03	0.18	"	0.210	ND	25.0	10-189			
Dibenz (a,h) anthracene	0.04	0.04	0.17	"	0.210	ND	20.0	51.1-147			M2
Surrogate: 2-Fluorobiphenyl	*0.0105*			"	*0.210*		*5.00*	*11.7-100*			*SR16*
Surrogate: Nitrobenzene-d5	*0.00*			"	*0.210*			*19.6-113*			*SR16*
Surrogate: Terphenyl-dl4	*0.0210*			"	*0.210*		*10.0*	*11.3-148*			*SR16*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D04044 - Default Prep GenChem											
Duplicate (2D04044-DUP1)			**Source: 2204028-04**								
pH	6.59			pH Units		6.63			0.605	5	HT-02
Batch 2D04047 - Default Prep GenChem											
LCS (2D04047-BS1)											
Specific Conductance (EC)	1490			uS/cm	1410		106	90-110			
Duplicate (2D04047-DUP1)			**Source: 2204028-04**								
Specific Conductance (EC)	342			umhos/cm @25.0 C		339			0.881	10	
Batch 2D05031 - Default Prep GenChem											
Blank (2D05031-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D05031-BLK2)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
LCS (2D05031-BS1)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
Nitrate as N	2.12	0.020	0.500	"	2.26		93.8	81.7-111			
LCS (2D05031-BS2)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
Nitrate as N	2.15	0.020	0.500	"	2.26		95.1	81.7-111			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D05031 - Default Prep GenChem											
LCS Dup (2D05031-BSD1)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109	0.462	20	
Nitrate as N	2.12	0.020	0.500	"	2.26		94.0	81.7-111	0.236	20	
LCS Dup (2D05031-BSD2)											
Chloride	10.3	0.095	0.500	mg/L	10.0		103	86.3-109	1.16	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.6	81.7-111	2.73	20	
Duplicate (2D05031-DUP1)			**Source: 2204028-01**								
Chloride	7.89	0.095	0.500	mg/L		7.82			0.903	20	
Nitrate as N	ND	0.020	0.500	"		0.896			200	20	
Matrix Spike (2D05031-MS1)			**Source: 2204028-01**								
Chloride	24.9	0.095	0.500	mg/L	12.0	7.82	142	76.2-122			M1
Nitrate as N	2.96	0.020	0.500	"	2.71	0.896	76.3	60.8-130			
Matrix Spike Dup (2D05031-MSD1)			**Source: 2204028-01**								
Chloride	20.7	0.095	0.500	mg/L	12.0	7.82	107	76.2-122	18.3	20	
Nitrate as N	ND	0.020	0.500	"	2.71	0.896	NR	60.8-130	200	20	
Batch 2D06006 - Default Prep GenChem											
Blank (2D06006-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D06006-BLK2)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06006 - Default Prep GenChem											
Blank (2D06006-BLK3)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D06006-BLK4)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
LCS (2D06006-BS1)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109			
Nitrate as N	2.38	0.020	0.500	"	2.26		105	81.7-111			
LCS (2D06006-BS2)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
Nitrate as N	2.12	0.020	0.500	"	2.26		93.9	81.7-111			
LCS (2D06006-BS3)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
Nitrate as N	2.15	0.020	0.500	"	2.26		95.1	81.7-111			
LCS (2D06006-BS4)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109			
Nitrate as N	2.23	0.020	0.500	"	2.26		98.6	81.7-111			
LCS Dup (2D06006-BSD1)											
Chloride	10.1	0.095	0.500	mg/L	10.0		101	86.3-109	3.52	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.3	81.7-111	13.2	20	
LCS Dup (2D06006-BSD2)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109	0.335	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.4	81.7-111	1.62	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06006 - Default Prep GenChem											
LCS Dup (2D06006-BSD3)											
Chloride	10.3	0.095	0.500	mg/L	10.0		103	86.3-109	1.16	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.6	81.7-111	2.73	20	
LCS Dup (2D06006-BSD4)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109	0.266	20	
Nitrate as N	2.11	0.020	0.500	"	2.26		93.4	81.7-111	5.49	20	
Duplicate (2D06006-DUP1)			**Source: 2204055-04**								
Chloride	3.16	0.095	0.500	mg/L		2.91			7.94	20	
Nitrate as N	2.49	0.099	1.00	"		2.10			16.8	20	
Matrix Spike (2D06006-MS1)			**Source: 2204055-04**								
Chloride	15.7	0.095	0.500	mg/L	12.0	2.91	106	76.2-122			
Nitrate as N	1.71	0.020	0.500	"	2.71	2.10	NR	60.8-130			M2
Matrix Spike Dup (2D06006-MSD1)			**Source: 2204055-04**								
Chloride	16.0	0.095	0.500	mg/L	12.0	2.91	109	76.2-122	2.07	20	
Nitrate as N	1.75	0.020	0.500	"	2.71	2.10	NR	60.8-130	2.08	20	M2
Batch 2D06014 - Default Prep GenChem											
Blank (2D06014-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2D06014-BS1)											
Ammonia as N	5.22	0.03	0.21	mg/L	5.00		104	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06014 - Default Prep GenChem											
LCS Dup (2D06014-BSD1)											
Ammonia as N	5.17	0.03	0.21	mg/L	5.00		103	90-110	0.962	10	
Duplicate (2D06014-DUP1)			**Source: 2204028-06**								
Ammonia as N	8.91	0.03	0.21	mg/L		8.89			0.225	10	
Matrix Spike (2D06014-MS1)			**Source: 2204024-01**								
Ammonia as N	5.02	0.03	0.21	mg/L	5.00	0.12	97.9	90-110			
Matrix Spike Dup (2D06014-MSD1)			**Source: 2204024-01**								
Ammonia as N	5.09	0.03	0.21	mg/L	5.00	0.12	99.3	90-110	1.38	10	
Batch 2D07026 - Default Prep GenChem											
Blank (2D07026-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2D07026-BS1)											
Ammonia as N	5.18	0.03	0.21	mg/L	5.00		104	90-110			
LCS Dup (2D07026-BSD1)											
Ammonia as N	5.19	0.03	0.21	mg/L	5.00		104	90-110	0.193	10	
Duplicate (2D07026-DUP1)			**Source: 2204059-12**								
Ammonia as N	39.3	0.10	0.63	mg/L		39.6			0.760	10	
Matrix Spike (2D07026-MS1)			**Source: 2204028-05**								
Ammonia as N	5.05	0.03	0.21	mg/L	5.00	ND	101	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D07026 - Default Prep GenChem											
Matrix Spike Dup (2D07026-MSD1)			**Source: 2204028-05**								
Ammonia as N	5.03	0.03	0.21	mg/L	5.00	ND	101	90-110	0.397	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D05040 - EPA 200.2 DCN 1017 Rev 10											
Blank (2D05040-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (2D05040-BS1)											
Arsenic [He]	0.100	0.00021	0.00200	mg/L	0.100		99.6	85-115			
Chromium [He]	0.100	0.00043	0.00100	"	0.100		100	85-115			
Lead [He]	0.097	0.00017	0.00100	"	0.100		96.7	85-115			
Nickel [He]	0.099	0.00016	0.0400	"	0.100		99.4	85-115			
LCS Dup (2D05040-BSD1)											
Arsenic [He]	0.101	0.00021	0.00200	mg/L	0.100		101	85-115	1.62	20	
Chromium [He]	0.101	0.00043	0.00100	"	0.100		101	85-115	0.894	20	
Lead [He]	0.098	0.00017	0.00100	"	0.100		98.5	85-115	1.76	20	
Nickel [He]	0.103	0.00016	0.0400	"	0.100		103	85-115	3.40	20	
Matrix Spike (2D05040-MS1)			**Source: 2204015-01**								
Arsenic [He]	0.101	0.00021	0.00200	mg/L	0.100	ND	101	70-130			
Chromium [He]	0.101	0.00043	0.00100	"	0.100	0.001	99.7	70-130			
Lead [He]	0.102	0.00017	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	0.097	0.00016	0.0400	"	0.100	ND	96.8	70-130			
Matrix Spike Dup (2D05040-MSD1)			**Source: 2204015-01**								
Arsenic [He]	0.102	0.00021	0.00200	mg/L	0.100	ND	102	70-130	1.38	20	
Chromium [He]	0.101	0.00043	0.00100	"	0.100	0.001	99.6	70-130	0.0792	20	
Lead [He]	0.103	0.00017	0.00100	"	0.100	ND	103	70-130	1.20	20	
Nickel [He]	0.098	0.00016	0.0400	"	0.100	ND	98.3	70-130	1.60	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
Blank (2D08003-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluorene	ND	0.16	1.19	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*10.1*			"	*10.0*		*101*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*4.84*			"	*5.00*		*96.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.86*			"	*10.0*		*68.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.18*			"	*5.00*		*83.6*	*18.4-100*			
Surrogate: Phenol-d5	*3.92*			"	*10.0*		*39.2*	*10-126*			
Surrogate: Terphenyl-dl4	*3.65*			"	*5.00*		*73.0*	*28.8-100*			
LCS (2D08003-BS1)											
Acenaphthene	11.5	0.16	1.08	ug/L	20.0		57.3	21.2-115			
Acenaphthylene	10.9	0.11	1.16	"	20.0		54.4	17.4-116			
Anthracene	18.5	0.13	1.29	"	20.0		92.4	19.4-120			
Bis(2-ethylhexyl)phthalate	17.9	0.37	1.08	"	20.0		89.5	42.2-107			
Carbazole	17.8	2.62	7.86	"	20.0		88.8	30.1-145			
4-Chloro-3-methylphenol	15.7	0.27	1.65	"	20.0		78.4	43.1-105			
Dibenzofuran	10.5	0.40	1.20	"	20.0		52.6	25-127			
2,4-Dimethylphenol	18.6	0.19	1.05	"	20.0		93.0	31.6-95.8			
2,4-Dinitrophenol	12.3	1.29	4.32	"	20.0		61.4	22.1-108			
Di-n-octyl phthalate	16.3	0.58	3.40	"	20.0		81.3	42.9-108			
Fluorene	11.9	0.16	1.19	"	20.0		59.4	49.1-98.2			
2-Methylphenol	12.1	0.41	1.24	"	20.0		60.4	15.8-123			
3 & 4-Methylphenol	20.1	2.26	6.78	"	40.0		50.3	11.1-130			
Naphthalene	10.8	0.15	0.99	"	20.0		53.9	22.1-109			
Pentachlorophenol	17.0	0.13	2.00	"	20.0		85.0	28.8-111			
2,4,6-Trichlorophenol	14.2	0.44	1.32	"	20.0		71.2	44.4-104			
1-Methylnaphthalene	11.2	0.05	1.28	"	20.0		56.2	23.7-97.4			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
LCS (2D08003-BS1)											
Surrogate: 2,4,6-Tribromophenol	*10.3*			*ug/L*	*10.0*		*103*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.81*			*"*	*5.00*		*116*	*21.3-130*			
Surrogate: 2-Fluorophenol	*7.06*			*"*	*10.0*		*70.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*6.56*			*"*	*5.00*		*131*	*18.4-130*			*SR06*
Surrogate: Phenol-d5	*5.01*			*"*	*10.0*		*50.1*	*10-126*			
Surrogate: Terphenyl-dl4	*4.35*			*"*	*5.00*		*87.0*	*28.8-100*			
LCS Dup (2D08003-BSD1)											
Acenaphthene	12.1	0.16	1.08	ug/L	20.0		60.7	21.2-115	5.77	48	
Acenaphthylene	11.7	0.11	1.16	"	20.0		58.4	17.4-116	7.18	74	
Anthracene	20.7	0.13	1.29	"	20.0		103	19.4-120	11.2	66	
Bis(2-ethylhexyl)phthalate	16.7	0.37	1.08	"	20.0		83.7	42.2-107	6.76	82	
Carbazole	16.9	2.62	7.86	"	20.0		84.5	30.1-145	4.91	40	
4-Chloro-3-methylphenol	16.8	0.27	1.65	"	20.0		83.9	43.1-105	6.72	73	
Dibenzofuran	11.0	0.40	1.20	"	20.0		55.2	25-127	4.73	40	
2,4-Dimethylphenol	18.7	0.19	1.05	"	20.0		93.4	31.6-95.8	0.429	58	
2,4-Dinitrophenol	13.0	1.29	4.32	"	20.0		64.8	22.1-108	5.47	132	
Di-n-octyl phthalate	17.5	0.29	1.70	"	20.0		87.4	42.9-108	7.17	69	
Fluorene	12.5	0.16	1.19	"	20.0		62.5	49.1-98.2	5.09	38	
2-Methylphenol	13.2	0.41	1.24	"	20.0		65.9	15.8-123	8.72	40	
3 & 4-Methylphenol	22.9	2.26	6.78	"	40.0		57.2	11.1-130	12.8	40	
Naphthalene	11.4	0.15	0.99	"	20.0		57.1	22.1-109	5.77	65	
Pentachlorophenol	17.5	0.13	2.00	"	20.0		87.7	28.8-111	3.13	86	
2,4,6-Trichlorophenol	15.1	0.44	1.32	"	20.0		75.7	44.4-104	6.20	58	
1-Methylnaphthalene	12.0	0.05	1.28	"	20.0		60.2	23.7-97.4	6.87	40	
Surrogate: 2,4,6-Tribromophenol	*0.00*			*"*	*10.0*			*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.82*			*"*	*5.00*		*116*	*21.3-130*			
Surrogate: 2-Fluorophenol	*7.56*			*"*	*10.0*		*75.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*6.46*			*"*	*5.00*		*129*	*18.4-130*			
Surrogate: Phenol-d5	*5.45*			*"*	*10.0*		*54.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.93*			*"*	*5.00*		*78.6*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D08003-DUP1)			**Source: 2204028-01**								
Acenaphthene	ND	0.17	1.10	ug/L		ND				45	
Acenaphthylene	ND	0.11	1.18	"		ND				45	
Anthracene	ND	0.13	1.32	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	"		0.38				45	
Carbazole	ND	2.67	8.02	"		ND				45	
4-Chloro-3-methylphenol	ND	0.28	1.68	"		ND				45	
Dibenzofuran	ND	0.41	1.22	"		ND				45	
2,4-Dimethylphenol	ND	0.19	1.07	"		ND				45	
2,4-Dinitrophenol	ND	1.32	4.41	"		ND				45	
Di-n-octyl phthalate	ND	0.29	1.73	"		ND				45	
Fluorene	ND	0.16	1.21	"		ND				45	
2-Methylphenol	ND	0.42	1.27	"		ND				45	
3 & 4-Methylphenol	ND	1.15	3.46	"		ND				45	
Naphthalene	ND	0.16	1.01	"		ND				45	
Pentachlorophenol	ND	0.06	1.02	"		ND				45	
2,4,6-Trichlorophenol	ND	0.45	1.35	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.31	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*0.00*			"	*10.2*			*0-200*			
Surrogate: 2-Fluorobiphenyl	*4.99*			"	*5.10*		*97.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.91*			"	*10.2*		*67.7*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.65*			"	*5.10*		*91.2*	*18.4-100*			
Surrogate: Phenol-d5	*4.29*			"	*10.2*		*42.0*	*10-126*			
Surrogate: Terphenyl-dl4	*3.73*			"	*5.10*		*73.2*	*28.8-100*			
Matrix Spike (2D08003-MS1)			**Source: 2204028-01**								
Acenaphthene	10.2	0.17	1.11	ug/L	20.5	ND	49.9	36.4-100			
Acenaphthylene	9.94	0.11	1.19	"	20.5	ND	48.5	35.5-100			
Anthracene	18.4	0.13	1.32	"	20.5	ND	89.9	39.6-100			
Bis(2-ethylhexyl)phthalate	14.0	0.37	1.11	"	20.5	0.38	66.7	8-158			
Carbazole	15.8	2.68	8.05	"	20.5	ND	77.0	15.3-151			
4-Chloro-3-methylphenol	14.7	0.28	1.69	"	20.5	ND	71.6	22-147			
Dibenzofuran	9.34	0.41	1.23	"	20.5	ND	45.6	38.3-107			
2,4-Dimethylphenol	13.8	0.19	1.08	"	20.5	ND	67.4	32-120			
2,4-Dinitrophenol	10.9	1.32	4.43	"	20.5	ND	53.4	5-191			
Di-n-octyl phthalate	14.5	0.30	1.74	"	20.5	ND	70.8	4-146			
Fluorene	10.9	0.16	1.22	"	20.5	ND	53.3	40.1-100			
2-Methylphenol	11.4	0.42	1.27	"	20.5	ND	55.7	7.21-120			
3 & 4-Methylphenol	19.4	2.32	6.95	"	41.0	ND	47.2	8-134			
Naphthalene	10.5	0.16	1.01	"	20.5	ND	51.4	29.1-100			
Pentachlorophenol	14.9	0.13	2.05	"	20.5	ND	72.6	14-176			
2,4,6-Trichlorophenol	12.8	0.45	1.35	"	20.5	ND	62.6	37-144			
1-Methylnaphthalene	10.7	0.05	1.31	"	20.5	ND	52.4	18.5-100			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D08003-MS1)				**Source: 2204028-01**							
Surrogate: 2,4,6-Tribromophenol	*12.0*			*ug/L*	*10.2*		*118*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*4.90*			*"*	*5.12*		*95.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.98*			*"*	*10.2*		*68.1*	*0-200*			
Surrogate: Nitrobenzene-d5	*5.91*			*"*	*5.12*		*115*	*18.4-130*			
Surrogate: Phenol-d5	*4.95*			*"*	*10.2*		*48.3*	*10-126*			
Surrogate: Terphenyl-dl4	*3.31*			*"*	*5.12*		*64.6*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11035 - EPA 5030B											
Blank (2D11035-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*47.8*			"	*50.0*		*95.6*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*42.8*			"	*50.0*		*85.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*58.0*			"	*50.0*		*116*	*80.4-119*			
LCS (2D11035-BS1)											
Benzene	19.5	0.258	5.00	ug/L	20.0		97.5	64.2-144			
Ethylbenzene	18.3	0.190	5.00	"	20.0		91.6	64.9-150			
Surrogate: Dibromofluoromethane	*49.4*			"	*50.0*		*98.7*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.0*			"	*50.0*		*108*	*87.4-116*			
Surrogate: Toluene-d8	*42.7*			"	*50.0*		*85.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*58.0*			"	*50.0*		*116*	*80.4-119*			
LCS Dup (2D11035-BSD1)											
Benzene	21.2	0.258	5.00	ug/L	20.0		106	64.2-144	8.35	30	
Ethylbenzene	19.6	0.190	5.00	"	20.0		97.8	64.9-150	6.55	30	
Surrogate: Dibromofluoromethane	*50.4*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.6*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*42.5*			"	*50.0*		*85.0*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*57.8*			"	*50.0*		*116*	*80.4-119*			
Matrix Spike (2D11035-MS1)		**Source: 2204040-01**									
Benzene	21.8	0.258	5.00	ug/L	20.0	ND	109	70-149			
Ethylbenzene	19.5	0.190	5.00	"	20.0	ND	97.7	70.2-150			
Surrogate: Dibromofluoromethane	*50.3*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.2*			"	*50.0*		*108*	*87.4-116*			
Surrogate: Toluene-d8	*42.8*			"	*50.0*		*85.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*56.8*			"	*50.0*		*114*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11035 - EPA 5030B											
Matrix Spike Dup (2D11035-MSD1)			**Source: 2204040-01**								
Benzene	21.4	0.258	5.00	ug/L	20.0	ND	107	70-149	1.67	35	
Ethylbenzene	19.4	0.190	5.00	"	20.0	ND	97.1	70.2-150	0.616	35	
Surrogate: Dibromofluoromethane	*51.8*			*"*	*50.0*		*104*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.3*			*"*	*50.0*		*109*	*87.4-116*			
Surrogate: Toluene-d8	*43.0*			*"*	*50.0*		*86.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*57.6*			*"*	*50.0*		*115*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:00

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:00

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Camie Bourne	CLB
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Howard Mitch Spicer	HMS
Sarah E. Tomek	SET
Stella S Kleist	SSK
Steven Tobias	SWT
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2204028

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting

Our normal turn around time is 10 working days

- x Normal
- __ Next Day*
- __ 2nd Day*
- __ Other*_____

*All rush order requests must be prior approved.

- __ Phone
- __ Mail
- __ Fax
- __ Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
UG-2	4-3-22/9:30	W	9		X	X	X	X	X	X	X
RW-5	4-3-22/10:00	W	9		X	X	X	X	X	X	X
RW-4	4-3-22/10:30	W	9	G	X	X	X	X	X	X	X
B-25	4-3-22/12:00	W	9	G	X	X	X	X	X	X	X
B-36	4-3-22/12:40	W	9	G	X	X	X	X	X	X	X
E-2	4-3-22/14:00	W	9	G	X	X	X	X	X	X	X
TBV#6902	4-3-22/9:30	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 5 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	4-4-22	07:00
Received by			EMS	4/4/22	0700
Relinquished by			EMS	4/4/22	0905
Received by	Sarah Tomek	Sarah Tomek	MM	4/04/22	0905
Relinquished by					
Received by					

Notes:
client cooler #1 -0.1°C
client cooler #2 0.0°C
client cooler #3 0.1°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2204055

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 04/05/2022 08:01. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-11	2204055-01	Water	04/04/2022 13:00	*Jeff Gonsoulin*	04/05/2022 08:01
Mobile/RW-12	2204055-02	Water	04/04/2022 13:35	*Jeff Gonsoulin*	04/05/2022 08:01
Mobile/RW-13	2204055-03	Water	04/04/2022 14:00	*Jeff Gonsoulin*	04/05/2022 08:01
Mobile/RW-7	2204055-04	Water	04/04/2022 14:15	*Jeff Gonsoulin*	04/05/2022 08:01
Mobile/RW-8A	2204055-05	Water	04/04/2022 14:40	*Jeff Gonsoulin*	04/05/2022 08:01
Trip Blank TBV#6905	2204055-06	Water	04/04/2022 13:00	*Micro Methods*	04/05/2022 08:01

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Sample Receipt Conditions

Date/Time Received: 4/5/2022 8:01:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 4/5/2022 8:35:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.8 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:03

Cooler ID: client cooler #2 **Receipt Temperature:** 0.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:03

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:03

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2-Methylnaphthalene, Benzo (a) anthracene

2D08008-BLK1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2-Methylnaphthalene, Acenaphthylene, Anthracene, Bis(2-ethylhexyl)phthalate, Carbazole, Dibenzofuran, Fluoranthene, Fluorene, Phenanthrene, Pyrene

2D11025-DUP1, 2204055-01[Mobile/RW-11], 2204055-02[Mobile/RW-12], 2204055-04[Mobile/RW-7], 2204055-05[Mobile/RW-8A]

L1 LCS and/or LCSD Recovery Limit exceeded.

Phenanthrene

2D08008-BS1

M2 MS/MSD Recovery below acceptable limit.

2-Methylphenol, 4-Chloro-3-methylphenol, Dibenz (a,h) anthracene

2D11025-MS1, 2D08008-MS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Fluorene

2D11025-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Fluorene, Naphthalene, Phenanthrene

2D11025-DUP1, 2D08008-DUP1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

2D11025-BSD1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5

2D08003-BS1

SR16 The surrogate recovery for this sample is outside of established control limits.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:03

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

2-Fluorobiphenyl, Nitrobenzene-d5, Terphenyl-dl4

2D08008-MS1

Anions-SM 4110B 2011

Qualifiers:

HT-06 The original analysis of this sample yielded QC recoveries outside acceptance criteria. It was re-analyzed after the recommended maximum hold time for confirmation of reported results.

Nitrate as N

2204055-01[Mobile/RW-11], 2204055-02[Mobile/RW-12], 2204055-05[Mobile/RW-8A]

M2 MS/MSD Recovery below acceptable limit.

Nitrate as N

2D06006-MS1, 2D06006-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2204055-01[Mobile/RW-11], 2204055-02[Mobile/RW-12], 2204055-03[Mobile/RW-13], 2204055-04[Mobile/RW-7], 2204055-05[Mobile/RW-8A], 2D05046-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-11

2204055-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**60.1**	0.473	2.50	mg/L	5.0	2D06006	TKM	04/05/2022 10:00	04/06/2022 12:35	SM 4110B 2011	
Nitrate as N	**23.8**	0.493	12.5	"	25.0	"	TKM	"	04/07/2022 11:00	"	HT-06
Ammonia as N	**8.74**	0.03	0.21	"	1.0	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:50	Lachat 10-107-06-1-I	
pH	**7.67**			pH Units	"	2D05046	MAN	04/05/2022 15:15	04/05/2022 15:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**944**			umhos/cm @25.0 C	"	2D05047	MAN	04/05/2022 15:35	04/05/2022 15:35	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**41.6**	1.14	10.1	ug/L	1.0	2D11025	CRLV	04/11/2022 09:02	04/13/2022 16:46	EPA 8270D	
Acenaphthylene	**5.60**	1.08	10.1	"	"	"	CRLV	"	"	"	J
Anthracene	**1.65**	0.99	10.1	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.88	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.04	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.02	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.98	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.15	10.1	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.90	10.1	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.05	10.1	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.93	10.1	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.67	10.1	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.05	10.1	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.85	10.1	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.07	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.36	10.1	"	"	"	CRLV	"	"	"	
Fluoranthene	**5.39**	0.94	10.1	"	"	"	CRLV	"	"	"	J
Fluorene	ND	1.02	10.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.89	10.1	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.13	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.89	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.88	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.10	10.1	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.74	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.93	10.1	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.10	10.1	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.60	10.1	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-11

2204055-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	66.6	*66.1 %*	*16.7-116*			*2D11025*	CRLV	*04/11/2022 09:02*	"	"	
2-Fluorobiphenyl	26.8	*53.2 %*	*16.9-105*			"	CRLV	"	"	"	
2-Fluorophenol	25.3	*25.1 %*	*10-100*			"	CRLV	"	"	"	
Nitrobenzene-d5	24.0	*47.7 %*	*10-100*			"	CRLV	"	"	"	
Phenol-d5	25.2	*25.0 %*	*10-112*			"	CRLV	"	"	"	
Terphenyl-dl4	20.4	*40.6 %*	*10-105*			"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 21:32	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	47.2	*94.4 %*	*83.9-122*			"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.6	*95.3 %*	*87.4-116*			"	BSF	"	"	"	
Toluene-d8	42.8	*85.6 %*	*81.4-118*			"	BSF	"	"	"	
4-Bromofluorobenzene	56.2	*112 %*	*80.4-119*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-12

2204055-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**35.5**	0.189	1.00	mg/L	2.0	2D06006	TKM	04/05/2022 10:00	04/06/2022 13:02	SM 4110B 2011	
Nitrate as N	**12.5**	0.197	5.00	"	10.0	"	TKM	"	04/07/2022 11:26	"	HT-06
Ammonia as N	**2.48**	0.03	0.21	"	1.0	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:51	Lachat 10-107-06-1-I	
pH	**7.20**			pH Units	"	2D05046	MAN	04/05/2022 15:15	04/05/2022 15:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**702**			umhos/cm @25.0 C	"	2D05047	MAN	04/05/2022 15:35	04/05/2022 15:35	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**53.7**	1.14	10.1	ug/L	1.0	2D11025	CRLV	04/11/2022 09:02	04/13/2022 17:21	EPA 8270D	
Acenaphthylene	ND	1.08	10.1	"	"	"	CRLV	"	"	"	
Anthracene	**1.11**	0.99	10.1	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.88	10.1	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.04	10.1	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.02	10.1	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.98	10.1	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**4.91**	1.15	10.1	"	"	"	CRLV	"	"	"	J
Carbazole	ND	0.90	10.1	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.05	10.1	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.93	10.1	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.67	10.1	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.05	10.1	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.85	10.1	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.07	10.1	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.36	10.1	"	"	"	CRLV	"	"	"	
Fluoranthene	**1.26**	0.94	10.1	"	"	"	CRLV	"	"	"	J
Fluorene	**27.3**	1.02	10.1	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.89	10.1	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.13	10.1	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.89	10.1	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.88	10.1	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.10	10.1	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.74	10.1	"	"	"	CRLV	"	"	"	
Phenanthrene	**7.24**	0.93	10.1	"	"	"	CRLV	"	"	"	J
Pyrene	ND	1.10	10.1	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.60	10.1	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-12

2204055-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
2,4,6-Tribromophenol	59.1		*58.7 %*	*16.7-116*		*2D11025*	CRLV	*04/11/2022 09:02*	"	"	
2-Fluorobiphenyl	26.6		*52.9 %*	*16.9-105*		"	CRLV	"	"	"	
2-Fluorophenol	24.5		*24.3 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	23.6		*46.8 %*	*10-100*		"	CRLV	"	"	"	
Phenol-d5	22.5		*22.3 %*	*10-112*		"	CRLV	"	"	"	
Terphenyl-dl4	22.1		*43.9 %*	*10-105*		"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 21:56	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	Result	% Rec	Rec Limits	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Dibromofluoromethane	48.0	*96.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.0	*98.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	42.6	*85.2 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	57.0	*114 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-13

2204055-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**14.3**	0.095	0.500	mg/L	1.0	2D06006	TKM	04/05/2022 10:00	04/05/2022 18:21	SM 4110B 2011	
Nitrate as N	**4.81**	0.099	2.50	"	5.0	"	TKM	"	04/06/2022 13:27	"	
Ammonia as N	ND	0.03	0.21	"	1.0	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:52	Lachat 10-107-06-1-I	
pH	**7.49**			pH Units	"	2D05046	MAN	04/05/2022 15:15	04/05/2022 15:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**204**			umhos/cm @25.0 C	"	2D05047	MAN	04/05/2022 15:35	04/05/2022 15:35	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.18	10.4	ug/L	1.0	2D11025	CRLV	04/11/2022 09:02	04/13/2022 17:55	EPA 8270D	
Acenaphthylene	ND	1.11	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.03	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.91	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.07	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.05	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.02	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.93	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.08	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.96	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.70	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.08	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.88	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.17	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.40	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.97	10.4	"	"	"	CRLV	"	"	"	
Fluorene	ND	1.05	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.17	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.92	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.91	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.13	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.83	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.97	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.13	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.68	10.4	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-13

2204055-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
2,4,6-Tribromophenol	20.6		*19.8 %*	*16.7-116*		*2D11025*	CRLV	*04/11/2022 09:02*	"	"	
2-Fluorobiphenyl	13.5		*26.0 %*	*16.9-105*		"	CRLV	"	"	"	
2-Fluorophenol	12.9		*12.4 %*	*10-100*		"	CRLV	"	"	"	
Nitrobenzene-d5	13.6		*26.2 %*	*10-100*		"	CRLV	"	"	"	
Phenol-d5	11.7		*11.2 %*	*10-112*		"	CRLV	"	"	"	
Terphenyl-dl4	12.2		*23.4 %*	*10-105*		"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 22:19	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	Result	% Rec	Rec Limits	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Dibromofluoromethane	48.3	*96.7 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.6	*101 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.3	*86.5 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	57.1	*114 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-7

2204055-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**2.91**	0.095	0.500	mg/L	1.0	2D06006	TKM	04/05/2022 10:00	04/05/2022 19:25	SM 4110B 2011	
Nitrate as N	**2.10**	0.099	1.00	"	5.0	"	TKM	"	04/06/2022 14:00	"	
Ammonia as N	ND	0.03	0.21	"	1.0	2D12048	CRG	04/12/2022 12:00	04/12/2022 14:04	Lachat 10-107-06-1-I	
pH	**8.33**			pH Units	"	2D05046	MAN	04/05/2022 15:15	04/05/2022 15:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**473**			umhos/cm @25.0 C	"	2D05047	MAN	04/05/2022 15:35	04/05/2022 15:35	SM 2510 B-2011	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.15	10.2	ug/L	1.0	2D11025	CRLV	04/11/2022 09:02	04/13/2022 18:29	EPA 8270D	
Acenaphthylene	ND	1.09	10.2	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.00	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.88	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.05	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.03	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.99	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"	"	"	CRLV	"	"	"	
Carbazole	**1.52**	0.91	10.2	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	1.06	10.2	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.94	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.68	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.06	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.85	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.10	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.37	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**1.76**	0.95	10.2	"	"	"	CRLV	"	"	"	J
Fluorene	**1.05**	1.03	10.2	"	"	"	CRLV	"	"	"	J
Indeno (1,2,3-cd) pyrene	ND	0.90	10.2	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.14	10.2	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.11	10.2	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.76	10.2	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.94	10.2	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.11	10.2	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.62	10.2	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-7

2204055-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	41.7	*41.1 %*	*16.7-116*			*2D11025*	CRLV	*04/11/2022 09:02*	"	"	
2-Fluorobiphenyl	19.7	*38.8 %*	*16.9-105*			"	CRLV	"	"	"	
2-Fluorophenol	19.3	*19.0 %*	*10-100*			"	CRLV	"	"	"	
Nitrobenzene-d5	18.9	*37.2 %*	*10-100*			"	CRLV	"	"	"	
Phenol-d5	18.4	*18.1 %*	*10-112*			"	CRLV	"	"	"	
Terphenyl-dl4	18.1	*35.6 %*	*10-105*			"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 22:43	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	48.0	*96.0 %*	*83.9-122*			"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.8	*95.6 %*	*87.4-116*			"	BSF	"	"	"	
Toluene-d8	43.1	*86.2 %*	*81.4-118*			"	BSF	"	"	"	
4-Bromofluorobenzene	57.0	*114 %*	*80.4-119*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-8A

2204055-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.10**	0.02	0.05	ug/L	1.0	2D08008	CRLV	04/08/2022 13:55	04/13/2022 10:20	EPA 8270D	
2-Methylnaphthalene	**0.08**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	**0.12**	0.01	0.06	"	"	"	CRLV	"	"	"	
Fluorene	**0.94**	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.55**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	**0.10**	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.21**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.13**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0610	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0916	*45.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.163	*80.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**38.2**	0.189	1.00	mg/L	2.0	2D06006	TKM	04/05/2022 10:00	04/06/2022 14:50	SM 4110B 2011	
Nitrate as N	ND	0.039	1.00	"	"	"	TKM	"	"	"	HT-06
Ammonia as N	**3.59**	0.03	0.21	"	1.0	2D06014	CRG	04/05/2022 14:00	04/06/2022 09:53	Lachat 10-107-06-1-I	
pH	**10.5**			pH Units	"	2D05046	MAN	04/05/2022 15:15	04/05/2022 15:15	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**580**			umhos/cm @25.0 C	"	2D05047	MAN	04/05/2022 15:35	04/05/2022 15:35	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00431**	0.00021	0.00200	mg/L	1.0	2D06011	CLB	04/06/2022 08:45	04/06/2022 19:40	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLB	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLB	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLB	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Mobile/RW-8A

2204055-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**3.46**	0.17	1.12	ug/L	1.0	2D08003	CRLV	04/08/2022 10:33	04/12/2022 09:13	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.12	"	"	"	CRLV	"	"	"	
Carbazole	ND	2.71	8.12	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.70	"	"	"	CRLV	"	"	"	
Dibenzofuran	**0.53**	0.41	1.24	"	"	"	CRLV	"	"	"	J
2,4-Dimethylphenol	ND	0.20	1.08	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	**12.9**	1.33	4.46	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.76	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.17	3.50	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.03	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	8.48	*82.1 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.75	*53.2 %*	*21.3-130*	"	CRLV	"	"	"	
2-Fluorophenol	3.26	*31.6 %*	*0-130*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.00	*38.8 %*	*18.4-130*	"	CRLV	"	"	"	
Phenol-d5	1.98	*19.2 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.30	*63.8 %*	*28.8-130*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 23:07	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.1	*94.2 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.1	*98.2 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	43.4	*86.8 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	57.0	*114 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Trip Blank TBV#6905

2204055-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D11035	BSF	04/11/2022 08:00	04/11/2022 23:30	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.0	*96.0 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.6	*97.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	42.9	*85.8 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	56.3	*113 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
Blank (2D08008-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							CC-01
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							CC-01
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.150*			"	*0.200*		*75.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0900*			"	*0.200*		*45.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.180*			"	*0.200*		*90.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
LCS (2D08008-BS1)											
Naphthalene	0.24	0.02	0.05	ug/L	0.200		120	10-145			
2-Methylnaphthalene	0.24	0.05	0.05	"	0.200		120	50-150			
Acenaphthylene	0.21	0.01	0.06	"	0.200		105	10-147			
Acenaphthene	0.22	0.02	0.05	"	0.200		110	10-143			
Fluorene	0.25	0.02	0.12	"	0.200		125	10-150			
Phenanthrene	0.31	0.02	0.06	"	0.200		155	10-151			L1
Anthracene	0.25	0.02	0.06	"	0.200		125	10-130			
Fluoranthene	0.30	0.03	0.06	"	0.200		150	10-155			
Pyrene	0.29	0.02	0.05	"	0.200		145	10-148			
Benzo (a) anthracene	0.19	0.02	0.06	"	0.200		95.0	38.5-141			
Chrysene	0.24	0.03	0.05	"	0.200		120	45.4-150			
Benzo (b) fluoranthene	0.23	0.03	0.05	"	0.200		115	33.6-160			
Benzo (k) fluoranthene	0.10	0.02	0.05	"	0.200		50.0	33-159			
Benzo (a) pyrene	0.17	0.02	0.06	"	0.200		85.0	10-177			
Indeno (1,2,3-cd) pyrene	0.08	0.02	0.17	"	0.200		40.0	10.7-171			
Dibenz (a,h) anthracene	0.08	0.04	0.16	"	0.200		40.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.190*			"	*0.200*		*95.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.120*			"	*0.200*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.240*			"	*0.200*		*120*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D08008-BSD1)											
Naphthalene	0.21	0.02	0.05	ug/L	0.200		105	10-145	13.3	40	
2-Methylnaphthalene	0.19	0.05	0.05	"	0.200		95.0	50-150	23.3	40	
Acenaphthylene	0.17	0.01	0.06	"	0.200		85.0	10-147	21.1	40	
Acenaphthene	0.18	0.02	0.05	"	0.200		90.0	10-143	20.0	40	
Fluorene	0.19	0.02	0.12	"	0.200		95.0	10-150	27.3	40	
Phenanthrene	0.25	0.02	0.06	"	0.200		125	10-151	21.4	40	
Anthracene	0.20	0.02	0.06	"	0.200		100	10-130	22.2	40	
Fluoranthene	0.25	0.03	0.06	"	0.200		125	10-155	18.2	40	
Pyrene	0.26	0.02	0.05	"	0.200		130	10-148	10.9	40	
Benzo (a) anthracene	0.14	0.02	0.06	"	0.200		70.0	38.5-141	30.3	40	
Chrysene	0.17	0.03	0.05	"	0.200		85.0	45.4-150	34.1	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	24.4	40	
Benzo (k) fluoranthene	0.08	0.02	0.05	"	0.200		40.0	33-159	22.2	40	
Benzo (a) pyrene	0.12	0.02	0.06	"	0.200		60.0	10-177	34.5	40	
Indeno (1,2,3-cd) pyrene	0.08	0.02	0.17	"	0.200		40.0	10.7-171	0.00	40	
Dibenz (a,h) anthracene	0.08	0.04	0.16	"	0.200		40.0	16-164	0.00	40	
Surrogate: 2-Fluorobiphenyl	*0.160*			"	*0.200*		*80.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.110*			"	*0.200*		*55.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.210*			"	*0.200*		*105*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D08008-DUP1)			**Source: 2204028-02**								
Naphthalene	0.07	0.02	0.05	ug/L		0.04			58.3	45	P3
2-Methylnaphthalene	ND	0.05	0.05	"		ND				45	
Acenaphthylene	ND	0.01	0.06	"		ND				45	
Acenaphthene	ND	0.02	0.05	"		ND				45	
Fluorene	ND	0.02	0.13	"		ND				45	
Phenanthrene	0.12	0.02	0.06	"		0.06			62.5	45	P3
Anthracene	ND	0.02	0.06	"		ND				45	
Fluoranthene	0.07	0.03	0.06	"		0.06			19.4	45	
Pyrene	0.06	0.02	0.05	"		0.05			22.2	45	
Benzo (a) anthracene	ND	0.03	0.06	"		ND				45	
Chrysene	ND	0.03	0.05	"		ND				45	
Benzo (b) fluoranthene	ND	0.03	0.05	"		ND				45	
Benzo (k) fluoranthene	ND	0.03	0.05	"		ND				45	
Benzo (a) pyrene	ND	0.02	0.06	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"		ND				45	
Dibenz (a,h) anthracene	ND	0.04	0.17	"		ND				45	
Surrogate: 2-Fluorobiphenyl	*0.128*			"	*0.213*		*60.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0746*			"	*0.213*		*35.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.235*			"	*0.213*		*110*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08008 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D08008-MS1)		**Source: 2204028-02**									
Naphthalene	0.17	0.02	0.05	ug/L	0.210	0.04	60.5	10-182			
2-Methylnaphthalene	0.18	0.05	0.05	"	0.210	ND	85.0	0-200			
Acenaphthylene	0.16	0.01	0.06	"	0.210	ND	75.0	10-200			
Acenaphthene	0.17	0.02	0.05	"	0.210	ND	80.0	10-200			
Fluorene	0.20	0.02	0.13	"	0.210	ND	95.0	10-200			
Phenanthrene	0.24	0.02	0.06	"	0.210	0.06	85.7	46.3-156			
Anthracene	0.23	0.02	0.06	"	0.210	ND	110	12.9-149			
Fluoranthene	0.26	0.03	0.06	"	0.210	0.06	95.7	10-200			
Pyrene	0.25	0.02	0.05	"	0.210	0.05	95.6	10-191			
Benzo (a) anthracene	0.18	0.03	0.06	"	0.210	ND	85.0	19.3-191			
Chrysene	0.19	0.03	0.05	"	0.210	ND	90.0	16.5-166			
Benzo (b) fluoranthene	0.19	0.03	0.05	"	0.210	ND	90.0	17.3-163			
Benzo (k) fluoranthene	0.07	0.03	0.05	"	0.210	ND	35.0	23.7-152			
Benzo (a) pyrene	0.13	0.02	0.06	"	0.210	ND	60.0	10-200			
Indeno (1,2,3-cd) pyrene	0.05	0.03	0.18	"	0.210	ND	25.0	10-189			
Dibenz (a,h) anthracene	0.04	0.04	0.17	"	0.210	ND	20.0	51.1-147			M2
Surrogate: 2-Fluorobiphenyl	*0.0105*			"	*0.210*		*5.00*	*11.7-100*			*SR16*
Surrogate: Nitrobenzene-d5	*0.00*			"	*0.210*			*19.6-113*			*SR16*
Surrogate: Terphenyl-dl4	*0.0210*			"	*0.210*		*10.0*	*11.3-148*			*SR16*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D05046 - Default Prep GenChem											
Duplicate (2D05046-DUP1)			**Source: 2204055-05**								
pH	10.5			pH Units		10.5			0.286	5	HT-02
Batch 2D05047 - Default Prep GenChem											
LCS (2D05047-BS1)											
Specific Conductance (EC)	1440			uS/cm	1410		102	90-110			
Duplicate (2D05047-DUP1)			**Source: 2204055-05**								
Specific Conductance (EC)	584			umhos/cm @25.0 C		580			0.687	10	
Batch 2D06006 - Default Prep GenChem											
Blank (2D06006-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D06006-BLK2)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D06006-BLK3)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D06006-BLK4)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06006 - Default Prep GenChem											
LCS (2D06006-BS1)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109			
Nitrate as N	2.38	0.020	0.500	"	2.26		105	81.7-111			
LCS (2D06006-BS2)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
Nitrate as N	2.12	0.020	0.500	"	2.26		93.9	81.7-111			
LCS (2D06006-BS3)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
Nitrate as N	2.15	0.020	0.500	"	2.26		95.1	81.7-111			
LCS (2D06006-BS4)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109			
Nitrate as N	2.23	0.020	0.500	"	2.26		98.6	81.7-111			
LCS Dup (2D06006-BSD1)											
Chloride	10.1	0.095	0.500	mg/L	10.0		101	86.3-109	3.52	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.3	81.7-111	13.2	20	
LCS Dup (2D06006-BSD2)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109	0.335	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.4	81.7-111	1.62	20	
LCS Dup (2D06006-BSD3)											
Chloride	10.3	0.095	0.500	mg/L	10.0		103	86.3-109	1.16	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.6	81.7-111	2.73	20	
LCS Dup (2D06006-BSD4)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109	0.266	20	
Nitrate as N	2.11	0.020	0.500	"	2.26		93.4	81.7-111	5.49	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06006 - Default Prep GenChem											
Duplicate (2D06006-DUP1)			**Source: 2204055-04**								
Chloride	3.16	0.095	0.500	mg/L		2.91			7.94	20	
Nitrate as N	2.49	0.099	1.00	"		2.10			16.8	20	
Matrix Spike (2D06006-MS1)			**Source: 2204055-04**								
Chloride	15.7	0.095	0.500	mg/L	12.0	2.91	106	76.2-122			
Nitrate as N	1.71	0.020	0.500	"	2.71	2.10	NR	60.8-130			M2
Matrix Spike Dup (2D06006-MSD1)			**Source: 2204055-04**								
Chloride	16.0	0.095	0.500	mg/L	12.0	2.91	109	76.2-122	2.07	20	
Nitrate as N	1.75	0.020	0.500	"	2.71	2.10	NR	60.8-130	2.08	20	M2
Batch 2D06014 - Default Prep GenChem											
Blank (2D06014-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2D06014-BS1)											
Ammonia as N	5.22	0.03	0.21	mg/L	5.00		104	90-110			
LCS Dup (2D06014-BSD1)											
Ammonia as N	5.17	0.03	0.21	mg/L	5.00		103	90-110	0.962	10	
Duplicate (2D06014-DUP1)			**Source: 2204028-06**								
Ammonia as N	8.91	0.03	0.21	mg/L		8.89			0.225	10	
Matrix Spike (2D06014-MS1)			**Source: 2204024-01**								
Ammonia as N	5.02	0.03	0.21	mg/L	5.00	0.12	97.9	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06014 - Default Prep GenChem											
Matrix Spike Dup (2D06014-MSD1)			**Source: 2204024-01**								
Ammonia as N	5.09	0.03	0.21	mg/L	5.00	0.12	99.3	90-110	1.38	10	
Batch 2D12048 - Default Prep GenChem											
Blank (2D12048-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2D12048-BS1)											
Ammonia as N	5.02	0.03	0.21	mg/L	5.00		100	90-110			
LCS Dup (2D12048-BSD1)											
Ammonia as N	4.93	0.03	0.21	mg/L	5.00		98.6	90-110	1.81	10	
Duplicate (2D12048-DUP1)			**Source: 2204094-02**								
Ammonia as N	0.64	0.03	0.21	mg/L		0.61			3.85	10	
Matrix Spike (2D12048-MS1)			**Source: 2204055-04**								
Ammonia as N	4.93	0.03	0.21	mg/L	5.00	0.16	95.4	90-110			
Matrix Spike Dup (2D12048-MSD1)			**Source: 2204055-04**								
Ammonia as N	4.86	0.03	0.21	mg/L	5.00	0.16	94.0	90-110	1.43	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06011 - EPA 200.2 DCN 1017 Rev 10											
Blank (2D06011-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (2D06011-BS1)											
Arsenic [He]	0.087	0.00021	0.00200	mg/L	0.100		86.5	85-115			
Chromium [He]	0.087	0.00043	0.00100	"	0.100		86.7	85-115			
Lead [He]	0.086	0.00017	0.00100	"	0.100		85.5	85-115			
Nickel [He]	0.088	0.00016	0.0400	"	0.100		88.1	85-115			
LCS Dup (2D06011-BSD1)											
Arsenic [He]	0.087	0.00021	0.00200	mg/L	0.100		86.8	85-115	0.327	20	
Chromium [He]	0.087	0.00043	0.00100	"	0.100		86.7	85-115	0.00516	20	
Lead [He]	0.086	0.00017	0.00100	"	0.100		86.4	85-115	0.992	20	
Nickel [He]	0.087	0.00016	0.0400	"	0.100		87.0	85-115	1.16	20	
Matrix Spike (2D06011-MS1)			**Source: 2204040-01**								
Arsenic [He]	0.088	0.00021	0.00200	mg/L	0.100	0.001	86.9	70-130			
Chromium [He]	0.082	0.00043	0.00100	"	0.100	0.002	79.9	70-130			
Lead [He]	0.091	0.00017	0.00100	"	0.100	ND	91.5	70-130			
Nickel [He]	0.098	0.00016	0.0400	"	0.100	0.022	75.7	70-130			
Matrix Spike (2D06011-MS2)			**Source: 2204041-01**								
Arsenic [He]	0.094	0.00021	0.00200	mg/L	0.100	0.001	92.8	70-130			
Chromium [He]	0.087	0.00043	0.00100	"	0.100	0.002	85.1	70-130			
Lead [He]	0.098	0.00017	0.00100	"	0.100	ND	97.6	70-130			
Nickel [He]	0.100	0.00016	0.0400	"	0.100	0.020	80.6	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06011 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (2D06011-MSD1)			**Source: 2204040-01**								
Arsenic [He]	0.091	0.00021	0.00200	mg/L	0.100	0.001	89.6	70-130	3.09	20	
Chromium [He]	0.083	0.00043	0.00100	"	0.100	0.002	80.7	70-130	1.02	20	
Lead [He]	0.094	0.00017	0.00100	"	0.100	ND	93.8	70-130	2.50	20	
Nickel [He]	0.099	0.00016	0.0400	"	0.100	0.022	76.8	70-130	1.13	20	
Matrix Spike Dup (2D06011-MSD2)			**Source: 2204041-01**								
Arsenic [He]	0.097	0.00021	0.00200	mg/L	0.100	0.001	96.1	70-130	3.49	20	
Chromium [He]	0.090	0.00043	0.00100	"	0.100	0.002	87.9	70-130	3.14	20	
Lead [He]	0.102	0.00017	0.00100	"	0.100	ND	102	70-130	4.35	20	
Nickel [He]	0.102	0.00016	0.0400	"	0.100	0.020	82.3	70-130	1.64	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
Blank (2D08003-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluorene	ND	0.16	1.19	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*10.1*			"	*10.0*		*101*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*4.84*			"	*5.00*		*96.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.86*			"	*10.0*		*68.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.18*			"	*5.00*		*83.6*	*18.4-100*			
Surrogate: Phenol-d5	*3.92*			"	*10.0*		*39.2*	*10-126*			
Surrogate: Terphenyl-dl4	*3.65*			"	*5.00*		*73.0*	*28.8-100*			
LCS (2D08003-BS1)											
Acenaphthene	11.5	0.16	1.08	ug/L	20.0		57.3	21.2-115			
Acenaphthylene	10.9	0.11	1.16	"	20.0		54.4	17.4-116			
Anthracene	18.5	0.13	1.29	"	20.0		92.4	19.4-120			
Bis(2-ethylhexyl)phthalate	17.9	0.37	1.08	"	20.0		89.5	42.2-107			
Carbazole	17.8	2.62	7.86	"	20.0		88.8	30.1-145			
4-Chloro-3-methylphenol	15.7	0.27	1.65	"	20.0		78.4	43.1-105			
Dibenzofuran	10.5	0.40	1.20	"	20.0		52.6	25-127			
2,4-Dimethylphenol	18.6	0.19	1.05	"	20.0		93.0	31.6-95.8			
2,4-Dinitrophenol	12.3	1.29	4.32	"	20.0		61.4	22.1-108			
Di-n-octyl phthalate	16.3	0.58	3.40	"	20.0		81.3	42.9-108			
Fluorene	11.9	0.16	1.19	"	20.0		59.4	49.1-98.2			
2-Methylphenol	12.1	0.41	1.24	"	20.0		60.4	15.8-123			
3 & 4-Methylphenol	20.1	2.26	6.78	"	40.0		50.3	11.1-130			
Naphthalene	10.8	0.15	0.99	"	20.0		53.9	22.1-109			
Pentachlorophenol	17.0	0.13	2.00	"	20.0		85.0	28.8-111			
2,4,6-Trichlorophenol	14.2	0.44	1.32	"	20.0		71.2	44.4-104			
1-Methylnaphthalene	11.2	0.05	1.28	"	20.0		56.2	23.7-97.4			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
LCS (2D08003-BS1)											
Surrogate: 2,4,6-Tribromophenol	*10.3*			*ug/L*	*10.0*		*103*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.81*			*"*	*5.00*		*116*	*21.3-130*			
Surrogate: 2-Fluorophenol	*7.06*			*"*	*10.0*		*70.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*6.56*			*"*	*5.00*		*131*	*18.4-130*			*SR06*
Surrogate: Phenol-d5	*5.01*			*"*	*10.0*		*50.1*	*10-126*			
Surrogate: Terphenyl-dl4	*4.35*			*"*	*5.00*		*87.0*	*28.8-100*			
LCS Dup (2D08003-BSD1)											
Acenaphthene	12.1	0.16	1.08	ug/L	20.0		60.7	21.2-115	5.77	48	
Acenaphthylene	11.7	0.11	1.16	"	20.0		58.4	17.4-116	7.18	74	
Anthracene	20.7	0.13	1.29	"	20.0		103	19.4-120	11.2	66	
Bis(2-ethylhexyl)phthalate	16.7	0.37	1.08	"	20.0		83.7	42.2-107	6.76	82	
Carbazole	16.9	2.62	7.86	"	20.0		84.5	30.1-145	4.91	40	
4-Chloro-3-methylphenol	16.8	0.27	1.65	"	20.0		83.9	43.1-105	6.72	73	
Dibenzofuran	11.0	0.40	1.20	"	20.0		55.2	25-127	4.73	40	
2,4-Dimethylphenol	18.7	0.19	1.05	"	20.0		93.4	31.6-95.8	0.429	58	
2,4-Dinitrophenol	13.0	1.29	4.32	"	20.0		64.8	22.1-108	5.47	132	
Di-n-octyl phthalate	17.5	0.29	1.70	"	20.0		87.4	42.9-108	7.17	69	
Fluorene	12.5	0.16	1.19	"	20.0		62.5	49.1-98.2	5.09	38	
2-Methylphenol	13.2	0.41	1.24	"	20.0		65.9	15.8-123	8.72	40	
3 & 4-Methylphenol	22.9	2.26	6.78	"	40.0		57.2	11.1-130	12.8	40	
Naphthalene	11.4	0.15	0.99	"	20.0		57.1	22.1-109	5.77	65	
Pentachlorophenol	17.5	0.13	2.00	"	20.0		87.7	28.8-111	3.13	86	
2,4,6-Trichlorophenol	15.1	0.44	1.32	"	20.0		75.7	44.4-104	6.20	58	
1-Methylnaphthalene	12.0	0.05	1.28	"	20.0		60.2	23.7-97.4	6.87	40	
Surrogate: 2,4,6-Tribromophenol	*0.00*			*"*	*10.0*			*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.82*			*"*	*5.00*		*116*	*21.3-130*			
Surrogate: 2-Fluorophenol	*7.56*			*"*	*10.0*		*75.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*6.46*			*"*	*5.00*		*129*	*18.4-130*			
Surrogate: Phenol-d5	*5.45*			*"*	*10.0*		*54.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.93*			*"*	*5.00*		*78.6*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D08003-DUP1)			**Source: 2204028-01**								
Acenaphthene	ND	0.17	1.10	ug/L		ND				45	
Acenaphthylene	ND	0.11	1.18	"		ND				45	
Anthracene	ND	0.13	1.32	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	"		0.38				45	
Carbazole	ND	2.67	8.02	"		ND				45	
4-Chloro-3-methylphenol	ND	0.28	1.68	"		ND				45	
Dibenzofuran	ND	0.41	1.22	"		ND				45	
2,4-Dimethylphenol	ND	0.19	1.07	"		ND				45	
2,4-Dinitrophenol	ND	1.32	4.41	"		ND				45	
Di-n-octyl phthalate	ND	0.29	1.73	"		ND				45	
Fluorene	ND	0.16	1.21	"		ND				45	
2-Methylphenol	ND	0.42	1.27	"		ND				45	
3 & 4-Methylphenol	ND	1.15	3.46	"		ND				45	
Naphthalene	ND	0.16	1.01	"		ND				45	
Pentachlorophenol	ND	0.06	1.02	"		ND				45	
2,4,6-Trichlorophenol	ND	0.45	1.35	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.31	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*0.00*			"	*10.2*			*0-200*			
Surrogate: 2-Fluorobiphenyl	*4.99*			"	*5.10*		*97.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.91*			"	*10.2*		*67.7*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.65*			"	*5.10*		*91.2*	*18.4-100*			
Surrogate: Phenol-d5	*4.29*			"	*10.2*		*42.0*	*10-126*			
Surrogate: Terphenyl-dl4	*3.73*			"	*5.10*		*73.2*	*28.8-100*			
Matrix Spike (2D08003-MS1)			**Source: 2204028-01**								
Acenaphthene	10.2	0.17	1.11	ug/L	20.5	ND	49.9	36.4-100			
Acenaphthylene	9.94	0.11	1.19	"	20.5	ND	48.5	35.5-100			
Anthracene	18.4	0.13	1.32	"	20.5	ND	89.9	39.6-100			
Bis(2-ethylhexyl)phthalate	14.0	0.37	1.11	"	20.5	0.38	66.7	8-158			
Carbazole	15.8	2.68	8.05	"	20.5	ND	77.0	15.3-151			
4-Chloro-3-methylphenol	14.7	0.28	1.69	"	20.5	ND	71.6	22-147			
Dibenzofuran	9.34	0.41	1.23	"	20.5	ND	45.6	38.3-107			
2,4-Dimethylphenol	13.8	0.19	1.08	"	20.5	ND	67.4	32-120			
2,4-Dinitrophenol	10.9	1.32	4.43	"	20.5	ND	53.4	5-191			
Di-n-octyl phthalate	14.5	0.30	1.74	"	20.5	ND	70.8	4-146			
Fluorene	10.9	0.16	1.22	"	20.5	ND	53.3	40.1-100			
2-Methylphenol	11.4	0.42	1.27	"	20.5	ND	55.7	7.21-120			
3 & 4-Methylphenol	19.4	2.32	6.95	"	41.0	ND	47.2	8-134			
Naphthalene	10.5	0.16	1.01	"	20.5	ND	51.4	29.1-100			
Pentachlorophenol	14.9	0.13	2.05	"	20.5	ND	72.6	14-176			
2,4,6-Trichlorophenol	12.8	0.45	1.35	"	20.5	ND	62.6	37-144			
1-Methylnaphthalene	10.7	0.05	1.31	"	20.5	ND	52.4	18.5-100			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08003 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D08003-MS1)		**Source: 2204028-01**									
Surrogate: 2,4,6-Tribromophenol	*12.0*			*ug/L*	*10.2*		*118*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*4.90*			*"*	*5.12*		*95.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.98*			*"*	*10.2*		*68.1*	*0-200*			
Surrogate: Nitrobenzene-d5	*5.91*			*"*	*5.12*		*115*	*18.4-130*			
Surrogate: Phenol-d5	*4.95*			*"*	*10.2*		*48.3*	*10-126*			
Surrogate: Terphenyl-dl4	*3.31*			*"*	*5.12*		*64.6*	*28.8-100*			
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
Blank (2D11025-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*38.1*			*"*	*100*		*38.1*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*24.6*			*"*	*50.0*		*49.2*	*16.9-105*			
Surrogate: 2-Fluorophenol	*24.5*			*"*	*100*		*24.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*27.2*			*"*	*50.0*		*54.3*	*10-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
Blank (2D11025-BLK1)											
Surrogate: Phenol-d5	*20.9*			*ug/L*	*100*		*20.9*	*10-112*			
Surrogate: Terphenyl-dl4	*23.1*			*"*	*50.0*		*46.2*	*10-105*			
LCS (2D11025-BS1)											
Acenaphthene	61.8	1.13	10.0	ug/L	100		61.8	36.1-108			
Acenaphthylene	58.8	1.07	10.0	"	100		58.8	34.6-109			
Anthracene	60.8	0.99	10.0	"	100		60.8	36.4-106			
Benzo (a) anthracene	62.6	0.87	10.0	"	100		62.6	42.9-101			
Benzo (b) fluoranthene	64.5	1.03	10.0	"	100		64.5	43.7-105			
Benzo (k) fluoranthene	62.8	1.01	10.0	"	100		62.8	38.1-112			
Benzo (a) pyrene	66.1	0.98	10.0	"	100		66.1	46.5-104			
Bis(2-ethylhexyl)phthalate	72.8	1.14	10.0	"	100		72.8	25.1-113			
Carbazole	87.3	0.90	10.0	"	100		87.3	5.43-162			
4-Chloro-3-methylphenol	65.9	1.04	10.0	"	100		65.9	39.1-106			
Chrysene	58.7	0.92	10.0	"	100		58.7	43.2-103			
Dibenz (a,h) anthracene	67.2	0.67	10.0	"	100		67.2	31-119			
Dibenzofuran	60.7	1.04	10.0	"	100		60.7	37.6-110			
2,4-Dimethylphenol	55.7	0.84	10.0	"	100		55.7	36-100			
2,4-Dinitrophenol	79.0	3.05	10.0	"	100		79.0	10.5-124			
Di-n-octyl phthalate	73.9	1.35	10.0	"	100		73.9	33.6-111			
Fluoranthene	60.1	0.93	10.0	"	100		60.1	26.4-121			
Fluorene	63.2	1.01	10.0	"	100		63.2	36.9-109			
Indeno (1,2,3-cd) pyrene	73.3	0.89	10.0	"	100		73.3	35.6-116			
2-Methylnaphthalene	41.4	1.12	10.0	"	100		41.4	34.3-102			
2-Methylphenol	49.3	0.88	10.0	"	100		49.3	35-101			
3 & 4-Methylphenol	98.2	0.87	10.0	"	200		49.1	29.4-107			
Naphthalene	52.2	1.09	10.0	"	100		52.2	36.8-100			
Pentachlorophenol	55.0	2.72	10.0	"	100		55.0	15.1-115			
Phenanthrene	61.7	0.93	10.0	"	100		61.7	36.4-110			
Pyrene	59.8	1.09	10.0	"	100		59.8	23.9-114			
2,4,6-Trichlorophenol	62.8	2.58	10.0	"	100		62.8	36-104			
Surrogate: 2,4,6-Tribromophenol	*77.3*			*"*	*100*		*77.3*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*30.8*			*"*	*50.0*		*61.6*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.7*			*"*	*100*		*29.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*32.7*			*"*	*50.0*		*65.4*	*10-100*			
Surrogate: Phenol-d5	*22.8*			*"*	*100*		*22.8*	*10-112*			
Surrogate: Terphenyl-dl4	*23.2*			*"*	*50.0*		*46.4*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D11025-BSD1)											
Acenaphthene	61.9	1.13	10.0	ug/L	100		61.9	36.1-108	0.162	40	
Acenaphthylene	59.8	1.07	10.0	"	100		59.8	34.6-109	1.60	40	
Anthracene	62.4	0.99	10.0	"	100		62.4	36.4-106	2.71	40	
Benzo (a) anthracene	64.7	0.87	10.0	"	100		64.7	42.9-101	3.22	40	
Benzo (b) fluoranthene	66.2	1.03	10.0	"	100		66.2	43.7-105	2.63	40	
Benzo (k) fluoranthene	60.4	1.01	10.0	"	100		60.4	38.1-112	3.91	40	
Benzo (a) pyrene	65.1	0.98	10.0	"	100		65.1	46.5-104	1.48	40	
Bis(2-ethylhexyl)phthalate	74.8	1.14	10.0	"	100		74.8	25.1-113	2.74	40	
Carbazole	87.2	0.90	10.0	"	100		87.2	5.43-162	0.160	40	
4-Chloro-3-methylphenol	62.0	1.04	10.0	"	100		62.0	39.1-106	6.02	40	
Chrysene	60.7	0.92	10.0	"	100		60.7	43.2-103	3.37	40	
Dibenz (a,h) anthracene	66.2	0.67	10.0	"	100		66.2	31-119	1.59	40	
Dibenzofuran	62.3	1.04	10.0	"	100		62.3	37.6-110	2.52	40	
2,4-Dimethylphenol	53.2	0.84	10.0	"	100		53.2	36-100	4.44	40	
2,4-Dinitrophenol	98.3	3.05	10.0	"	100		98.3	10.5-124	21.7	40	
Di-n-octyl phthalate	71.6	1.35	10.0	"	100		71.6	33.6-111	3.23	40	
Fluoranthene	61.7	0.93	10.0	"	100		61.7	26.4-121	2.56	40	
Fluorene	64.4	1.01	10.0	"	100		64.4	36.9-109	1.82	40	
Indeno (1,2,3-cd) pyrene	72.5	0.89	10.0	"	100		72.5	35.6-116	1.11	40	
2-Methylnaphthalene	39.4	1.12	10.0	"	100		39.4	34.3-102	4.97	40	
2-Methylphenol	42.7	0.88	10.0	"	100		42.7	35-101	14.5	40	
3 & 4-Methylphenol	83.5	0.87	10.0	"	200		41.7	29.4-107	16.2	40	
Naphthalene	50.0	1.09	10.0	"	100		50.0	36.8-100	4.31	40	
Pentachlorophenol	50.7	2.72	10.0	"	100		50.7	15.1-115	8.21	40	
Phenanthrene	62.7	0.93	10.0	"	100		62.7	36.4-110	1.64	40	
Pyrene	66.6	1.09	10.0	"	100		66.6	23.9-114	10.7	40	
2,4,6-Trichlorophenol	60.1	2.58	10.0	"	100		60.1	36-104	4.31	40	
Surrogate: 2,4,6-Tribromophenol	*165*			"	*100*		*165*	*16.7-116*			*SR05*
Surrogate: 2-Fluorobiphenyl	*54.7*			"	*50.0*		*109*	*16.9-110*			
Surrogate: 2-Fluorophenol	*50.4*			"	*100*		*50.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*51.1*			"	*50.0*		*102*	*10-110*			
Surrogate: Phenol-d5	*37.2*			"	*100*		*37.2*	*10-112*			
Surrogate: Terphenyl-dl4	*46.8*			"	*50.0*		*93.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D11025-DUP1)			**Source: 2204093-04**								
Acenaphthene	251	11.4	101	ug/L		344			31.2	45	
Acenaphthylene	ND	1.08	10.1	"		ND				45	
Anthracene	8.51	0.99	10.1	"		11.2			27.0	45	J
Benzo (a) anthracene	ND	0.88	10.1	"		ND				45	
Benzo (b) fluoranthene	ND	1.04	10.1	"		ND				45	
Benzo (k) fluoranthene	ND	1.02	10.1	"		ND				45	
Benzo (a) pyrene	ND	0.98	10.1	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.15	10.1	"		ND				45	
Carbazole	373	9.02	101	"		548			38.1	45	
4-Chloro-3-methylphenol	ND	1.05	10.1	"		ND				45	
Chrysene	ND	0.93	10.1	"		ND				45	
Dibenz (a,h) anthracene	ND	0.67	10.1	"		ND				45	
Dibenzofuran	92.7	1.05	10.1	"		104			11.4	45	
2,4-Dimethylphenol	ND	0.85	10.1	"		ND				45	
2,4-Dinitrophenol	ND	3.07	10.1	"		ND				45	
Di-n-octyl phthalate	ND	1.36	10.1	"		ND				45	
Fluoranthene	11.1	0.94	10.1	"		13.8			21.9	45	
Fluorene	108	1.02	10.1	"		180			50.4	45	P3
Indeno (1,2,3-cd) pyrene	ND	0.89	10.1	"		ND				45	
2-Methylnaphthalene	4.58	1.13	10.1	"		5.33			15.1	45	J
2-Methylphenol	ND	0.89	10.1	"		ND				45	
3 & 4-Methylphenol	ND	0.88	10.1	"		ND				45	
Naphthalene	434	11.0	101	"		515			17.1	45	
Pentachlorophenol	ND	2.74	10.1	"		ND				45	
Phenanthrene	92.3	0.93	10.1	"		107			14.4	45	
Pyrene	4.48	1.10	10.1	"		5.41			18.8	45	J
2,4,6-Trichlorophenol	ND	2.60	10.1	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*51.5*			"	*101*		*51.2*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*24.7*			"	*50.3*		*49.0*	*16.9-105*			
Surrogate: 2-Fluorophenol	*22.4*			"	*101*		*22.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*19.3*			"	*50.3*		*38.4*	*10-100*			
Surrogate: Phenol-d5	*18.4*			"	*101*		*18.3*	*10-112*			
Surrogate: Terphenyl-dl4	*16.4*			"	*50.3*		*32.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D11025-MS1)		**Source: 2204093-04**									
Acenaphthene	392	11.4	101	ug/L	101	344	47.4	10-121			
Acenaphthylene	60.0	1.08	10.1	"	101	ND	59.4	19-110			
Anthracene	76.5	1.00	10.1	"	101	11.2	64.7	16.1-116			
Benzo (a) anthracene	69.5	0.88	10.1	"	101	ND	68.8	27.7-107			
Benzo (b) fluoranthene	69.1	1.04	10.1	"	101	ND	68.5	23.3-117			
Benzo (k) fluoranthene	70.9	1.02	10.1	"	101	ND	70.3	20.4-113			
Benzo (a) pyrene	72.2	0.98	10.1	"	101	ND	71.6	34.6-101			
Bis(2-ethylhexyl)phthalate	74.3	1.15	10.1	"	101	ND	73.6	10-108			
Carbazole	634	9.05	101	"	101	548	84.9	10-159			
4-Chloro-3-methylphenol	1.59	1.05	10.1	"	101	ND	1.58	19.8-110			M2
Chrysene	62.1	0.93	10.1	"	101	ND	61.5	25.6-113			
Dibenz (a,h) anthracene	74.0	0.68	10.1	"	101	ND	73.3	15.9-129			
Dibenzofuran	137	1.05	10.1	"	101	104	32.6	10-115			
2,4-Dimethylphenol	51.5	0.85	10.1	"	101	ND	51.0	17.2-115			
2,4-Dinitrophenol	96.3	3.08	10.1	"	101	ND	95.5	10-129			
Di-n-octyl phthalate	82.2	1.36	10.1	"	101	ND	81.5	21.1-102			
Fluoranthene	79.7	0.94	10.1	"	101	13.8	65.3	15-119			
Fluorene	165	1.02	10.1	"	101	180	NR	10-125			M5
Indeno (1,2,3-cd) pyrene	80.5	0.89	10.1	"	101	ND	79.8	18.2-129			
2-Methylnaphthalene	39.4	1.13	10.1	"	101	5.33	33.7	10-117			
2-Methylphenol	ND	0.89	10.1	"	101	ND		10-106			M2
3 & 4-Methylphenol	101	0.88	10.1	"	202	ND	49.9	10-102			
Naphthalene	551	11.0	101	"	101	515	35.7	19.6-98.1			
Pentachlorophenol	91.6	2.74	10.1	"	101	ND	90.8	10-125			
Phenanthrene	148	0.94	10.1	"	101	107	41.5	16.9-120			
Pyrene	62.7	1.10	10.1	"	101	5.41	56.8	12.3-105			
2,4,6-Trichlorophenol	63.3	2.60	10.1	"	101	ND	62.7	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*116*			"	*101*		*115*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*31.6*			"	*50.5*		*62.6*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.5*			"	*101*		*29.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*27.1*			"	*50.5*		*53.7*	*10-100*			
Surrogate: Phenol-d5	*28.9*			"	*101*		*28.7*	*10-112*			
Surrogate: Terphenyl-dl4	*32.9*			"	*50.5*		*65.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11035 - EPA 5030B											
Blank (2D11035-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*47.8*			"	*50.0*		*95.6*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*42.8*			"	*50.0*		*85.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*58.0*			"	*50.0*		*116*	*80.4-119*			
LCS (2D11035-BS1)											
Benzene	19.5	0.258	5.00	ug/L	20.0		97.5	64.2-144			
Ethylbenzene	18.3	0.190	5.00	"	20.0		91.6	64.9-150			
Surrogate: Dibromofluoromethane	*49.4*			"	*50.0*		*98.7*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.0*			"	*50.0*		*108*	*87.4-116*			
Surrogate: Toluene-d8	*42.7*			"	*50.0*		*85.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*58.0*			"	*50.0*		*116*	*80.4-119*			
LCS Dup (2D11035-BSD1)											
Benzene	21.2	0.258	5.00	ug/L	20.0		106	64.2-144	8.35	30	
Ethylbenzene	19.6	0.190	5.00	"	20.0		97.8	64.9-150	6.55	30	
Surrogate: Dibromofluoromethane	*50.4*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.6*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*42.5*			"	*50.0*		*85.0*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*57.8*			"	*50.0*		*116*	*80.4-119*			
Matrix Spike (2D11035-MS1)		**Source: 2204040-01**									
Benzene	21.8	0.258	5.00	ug/L	20.0	ND	109	70-149			
Ethylbenzene	19.5	0.190	5.00	"	20.0	ND	97.7	70.2-150			
Surrogate: Dibromofluoromethane	*50.3*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.2*			"	*50.0*		*108*	*87.4-116*			
Surrogate: Toluene-d8	*42.8*			"	*50.0*		*85.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*56.8*			"	*50.0*		*114*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11035 - EPA 5030B											
Matrix Spike Dup (2D11035-MSD1)			**Source: 2204040-01**								
Benzene	21.4	0.258	5.00	ug/L	20.0	ND	107	70-149	1.67	35	
Ethylbenzene	19.4	0.190	5.00	"	20.0	ND	97.1	70.2-150	0.616	35	
Surrogate: Dibromofluoromethane	*51.8*			*"*	*50.0*		*104*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.3*			*"*	*50.0*		*109*	*87.4-116*			
Surrogate: Toluene-d8	*43.0*			*"*	*50.0*		*86.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*57.6*			*"*	*50.0*		*115*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:03

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:03

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:03

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Camie Bourne	CLB
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Howard Mitch Spicer	HMS
Micah Nunez	MAN
Sarah E. Tomek	SET
Steven Tobias	SWT
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2204055

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting
Our normal turn around time is 10 working days
x Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
RW-11	4-4-22/13:00	W	6		X	X	X	X		X	X
RW-12	4-4-22/13:35	W	6		X	X	X	X		X	X
RW-13	4-4-22/14:00	W	6	G	X	X	X	X		X	X
RW-7	4-4-22/14:15	W	6	G	X	X	X	X		X	X
RW-8A	4-4-22/14:40	W	9	G	X	X	X	X	X	X	X
TBV#6905	4-4-22/13:00	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 5 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		~~ES~~ MM	4-5-22	8:01
Received by	Sarah Tomek	Sarah Tomek	MM	4/5/22	0801
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 0.8°C
client cooler #2 0.2°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2204093

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 04/06/2022 08:05. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/B-97	2204093-01	Water	04/05/2022 10:30	*Jeff Gonsoulin*	04/06/2022 08:05
Mobile/B-65	2204093-02	Water	04/05/2022 10:55	*Jeff Gonsoulin*	04/06/2022 08:05
Mobile/B-60A	2204093-03	Water	04/05/2022 12:30	*Jeff Gonsoulin*	04/06/2022 08:05
Mobile/RC-2A	2204093-04	Water	04/05/2022 13:00	*Jeff Gonsoulin*	04/06/2022 08:05
Mobile/RC-3A	2204093-05	Water	04/05/2022 13:15	*Jeff Gonsoulin*	04/06/2022 08:05
Mobile/B-24	2204093-06	Water	04/05/2022 14:00	*Jeff Gonsoulin*	04/06/2022 08:05
Mobile/B-128	2204093-07	Water	04/05/2022 14:30	*Jeff Gonsoulin*	04/06/2022 08:05
Trip Blank TBV#6909	2204093-08	Water	04/05/2022 10:30	*Micro Methods*	04/06/2022 08:05

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Sample Receipt Conditions

Date/Time Received: 4/6/2022 8:05:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 4/6/2022 8:48:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.9 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Cooler ID: client cooler #2

Receipt Temperature: 0.3 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Cooler ID: client cooler #3

Receipt Temperature: 2.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:05

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:05

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol

2204093-01[Mobile/B-97], 2204093-02[Mobile/B-65], 2204093-03[Mobile/B-60A], 2204093-06[Mobile/B-24], 2204093-07[Mobile/B-128], 2D12035-BLK1, 2D12035-DUP1

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol

2D12035-BS1, 2D12035-BSD1, 2D12035-MS1

CC-04 CCV exceeds acceptance limits. Results reported are estimated values.

2-Fluorobiphenyl

2D12036-BS1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 2-Methylnaphthalene, Anthracene, Dibenzofuran, Fluoranthene, Phenanthrene, Pyrene

2204093-05[Mobile/RC-3A], 2204093-04[Mobile/RC-2A], 2D11025-DUP1

L1 LCS and/or LCSD Recovery Limit exceeded.

Fluoranthene

2D12036-BSD1

L2 LCS and/or LCSD Recovery below acceptance limit.

Benzo (k) fluoranthene

2D12036-BS1

L3 LCS/LCSD Precision Limit exceeded.

Benzo (k) fluoranthene, Fluoranthene, Pyrene

2D12036-BSD1

M2 MS/MSD Recovery below acceptable limit.

2-Methylphenol, 4-Chloro-3-methylphenol, Dibenz (a,h) anthracene

2D11025-MS1, 2D12036-MS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Fluorene

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:05

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

2D11025-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Fluorene

2D11025-DUP1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2,4,6-Tribromophenol

2D11025-BSD1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

2-Fluorobiphenyl, Nitrobenzene-d5

2204093-01[Mobile/B-97], 2204093-02[Mobile/B-65], 2204093-03[Mobile/B-60A], 2204093-06[Mobile/B-24], 2204093-07[Mobile/B-128], 2D12036-BSD1, 2D12036-MS1, 2D12035-BSD1

Ammonia as N-Lachat 10-107-06-1-I

Qualifiers:

M2 MS/MSD Recovery below acceptable limit.

Analyte & Samples(s) Qualified:

2D12049-MSD1

Anions-SM 4110B 2011

Qualifiers:

E-11 The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

Chloride

2D06025-MS1, 2D06025-MSD1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:05

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2204093-01[Mobile/B-97], 2204093-02[Mobile/B-65], 2204093-03[Mobile/B-60A], 2204093-04[Mobile/RC-2A], 2204093-05[Mobile/RC-3A], 2204093-06[Mobile/B-24], 2204093-07[Mobile/B-128], 2D 11047-DUP1, 2D11047-DUP2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-97

2204093-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D12036	CRLV	04/12/2022 09:22	04/21/2022 16:13	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.07**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.00	*%*	*11.7-131*	"	CRLV	"	"	"	*SR06*
Nitrobenzene-d5	0.132	*65.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.162	*80.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**436**	2.36	12.5	mg/L	25.0	2D06025	TKM	04/06/2022 08:00	04/06/2022 18:17	SM 4110B 2011	
Nitrate as N	ND	0.493	12.5	"	"	"	TKM	"	"	"	
Ammonia as N	**9.88**	0.03	0.21	"	1.0	2D12048	CRG	04/12/2022 12:00	04/12/2022 14:40	Lachat 10-107-06-1-I	
pH	**6.75**			pH Units	"	2D11047	SSK	04/11/2022 14:16	04/11/2022 14:16	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**1830**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00628**	0.00021	0.00200	mg/L	1.0	2D08013	SCH	04/08/2022 10:00	04/19/2022 13:43	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00215	0.00500	"	5.0	"	SCH	"	04/19/2022 15:35	"	
Lead [He]	ND	0.00017	0.00100	"	1.0	"	SCH	"	04/19/2022 13:43	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-97

2204093-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.39	1.14	ug/L	1.0	2D12035	CRLV	04/12/2022 09:18	04/21/2022 01:19	EPA 8270D	
Carbazole	ND	2.78	8.33	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.75	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.11	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.37	4.58	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.31	1.80	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.44	1.31	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.20	3.59	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.06	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.47	1.40	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.36	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	11.4	*108 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	4.65	*87.8 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	6.67	*63.0 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.85	*72.6 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	4.62	*43.6 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.52	*66.4 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 14:30	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.2	*96.5 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	52.2	*104 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	40.2	*80.3 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	61.5	*123 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-65

2204093-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D12036	CRLV	04/12/2022 09:22	04/21/2022 18:15	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0209	*10.0 %*	*11.7-131*	"	CRLV	"	"	"	*SR06*
Nitrobenzene-d5	0.136	*65.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.240	*115 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**23.3**	0.095	0.500	mg/L	1.0	2D06025	TKM	04/06/2022 08:00	04/07/2022 00:40	SM 4110B 2011	
Nitrate as N	**1.45**	0.020	0.500	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.03	0.21	"	"	2D12048	CRG	04/12/2022 12:00	04/12/2022 14:41	Lachat 10-107-06-1-I	
pH	**6.84**			pH Units	"	2D11047	SSK	04/11/2022 14:18	04/11/2022 14:18	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**208**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D08013	SCH	04/08/2022 10:00	04/19/2022 13:47	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-65

2204093-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	2D12035	CRLV	04/12/2022 09:18	04/21/2022 00:43	EPA 8270D	
Carbazole	ND	2.66	7.98	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.19	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.31	4.39	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.29	1.73	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.26	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.44	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.06	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.34	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.30	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.27	*61.8 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.53	*49.8 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.38	*33.3 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.06	*40.6 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.61	*15.9 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.36	*46.4 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 14:54	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	49.0	*97.9 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	52.6	*105 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	40.0	*80.0 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.5	*121 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-60A

2204093-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D12036	CRLV	04/12/2022 09:22	04/21/2022 18:56	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0105	*5.00 %*	*11.7-131*	"	CRLV	"	"	"	*SR06*
Nitrobenzene-d5	0.147	*70.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.209	*100 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**36.3**	0.189	1.00	mg/L	2.0	2D06025	TKM	04/06/2022 08:00	04/07/2022 12:20	SM 4110B 2011	
Nitrate as N	**1.61**	0.020	0.500	"	1.0	"	TKM	"	04/06/2022 18:49	"	
Ammonia as N	ND	0.03	0.21	"	"	2D12048	CRG	04/12/2022 12:00	04/12/2022 14:42	Lachat 10-107-06-1-I	
pH	**6.42**			pH Units	"	2D11047	SSK	04/11/2022 14:24	04/11/2022 14:24	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**239**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D08013	SCH	04/08/2022 10:00	04/19/2022 13:52	EPA 200.8 Rev 5.4	
Chromium [He]	**0.0833**	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	**0.375**	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-60A

2204093-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.39	1.15	ug/L	1.0	2D12035	CRLV	04/12/2022 09:18	04/21/2022 00:07	EPA 8270D	
Carbazole	ND	2.80	8.39	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.76	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.12	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.38	4.61	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.31	1.81	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.44	1.32	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.21	3.62	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.07	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.47	1.41	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.37	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	5.69	*53.3 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.66	*49.8 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.06	*28.7 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.25	*42.2 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.53	*14.3 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	1.99	*37.2 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 15:18	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.7	*97.5 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.6	*101 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	39.6	*79.2 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	59.8	*120 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/RC-2A

2204093-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**59.8**	0.378	2.00	mg/L	4.0	2D06025	TKM	04/06/2022 08:00	04/06/2022 19:21	SM 4110B 2011	
Nitrate as N	ND	0.394	10.0	"	20.0	"	TKM	"	04/07/2022 12:52	"	
Ammonia as N	**0.61**	0.03	0.21	"	1.0	2D12048	CRG	04/12/2022 12:00	04/12/2022 14:44	Lachat 10-107-06-1-I	
pH	**6.44**			pH Units	"	2D11047	SSK	04/11/2022 14:26	04/11/2022 14:26	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**358**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D08013	SCH	04/08/2022 10:00	04/19/2022 13:56	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/RC-2A

2204093-04 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**344**	11.5	102	ug/L	10.0	2D11025	CRLV	04/11/2022 09:02	04/18/2022 18:13	EPA 8270D	
Acenaphthylene	ND	1.09	10.2	"	1.0	"	CRLV	"	04/13/2022 19:03	"	
Anthracene	**11.2**	1.00	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.88	10.2	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.05	10.2	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.03	10.2	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.99	10.2	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"	"	"	CRLV	"	"	"	
Carbazole	**548**	9.12	102	"	10.0	"	CRLV	"	04/18/2022 18:13	"	
4-Chloro-3-methylphenol	ND	1.06	10.2	"	1.0	"	CRLV	"	04/13/2022 19:03	"	
Chrysene	ND	0.94	10.2	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.68	10.2	"	"	"	CRLV	"	"	"	
Dibenzofuran	**104**	1.06	10.2	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.85	10.2	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.10	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.37	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**13.8**	0.95	10.2	"	"	"	CRLV	"	"	"	
Fluorene	**180**	10.3	102	"	10.0	"	CRLV	"	04/18/2022 18:13	"	
Indeno (1,2,3-cd) pyrene	ND	0.90	10.2	"	1.0	"	CRLV	"	04/13/2022 19:03	"	
2-Methylnaphthalene	**5.33**	1.14	10.2	"	"	"	CRLV	"	"	"	J
2-Methylphenol	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**515**	11.1	102	"	10.0	"	CRLV	"	04/18/2022 18:13	"	
Pentachlorophenol	ND	2.76	10.2	"	1.0	"	CRLV	"	04/13/2022 19:03	"	
Phenanthrene	**107**	0.94	10.2	"	"	"	CRLV	"	"	"	
Pyrene	**5.41**	1.11	10.2	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.62	10.2	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	71.7	*70.5 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	29.4	*57.9 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	27.2	*26.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	23.4	*46.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	20.8	*20.4 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	20.5	*40.3 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/RC-2A

2204093-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 15:41	EPA 8260D	
Ethylbenzene	**8.71**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.1	*96.3 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.0	*102 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	40.3	*80.7 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	62.0	*124 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/RC-3A

2204093-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**171**	0.946	5.00	mg/L	10.0	2D06025	TKM	04/06/2022 08:00	04/06/2022 20:24	SM 4110B 2011	
Nitrate as N	ND	0.197	5.00	"	"	"	TKM	"	"	"	
Ammonia as N	**0.70**	0.03	0.21	"	1.0	2D12048	CRG	04/12/2022 12:00	04/12/2022 14:54	Lachat 10-107-06-1-I	
pH	**6.36**			pH Units	"	2D11047	SSK	04/11/2022 14:28	04/11/2022 14:28	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**509**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D08013	SCH	04/08/2022 10:00	04/19/2022 14:01	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/RC-3A

2204093-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**29.6**	1.24	11.0	ug/L	1.0	2D11025	CRLV	04/11/2022 09:02	04/13/2022 19:37	EPA 8270D	
Acenaphthylene	ND	1.17	11.0	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.08	11.0	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.95	11.0	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.13	11.0	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.11	11.0	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.07	11.0	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.25	11.0	"	"	"	CRLV	"	"	"	
Carbazole	**14.6**	0.98	11.0	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.14	11.0	"	"	"	CRLV	"	"	"	
Chrysene	ND	1.01	11.0	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.73	11.0	"	"	"	CRLV	"	"	"	
Dibenzofuran	**2.87**	1.14	11.0	"	"	"	CRLV	"	"	"	J
2,4-Dimethylphenol	**1.58**	0.92	11.0	"	"	"	CRLV	"	"	"	J
2,4-Dinitrophenol	ND	3.34	11.0	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.48	11.0	"	"	"	CRLV	"	"	"	
Fluoranthene	**3.16**	1.02	11.0	"	"	"	CRLV	"	"	"	J
Fluorene	**15.6**	1.11	11.0	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.97	11.0	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**2.37**	1.23	11.0	"	"	"	CRLV	"	"	"	J
2-Methylphenol	ND	0.96	11.0	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.96	11.0	"	"	"	CRLV	"	"	"	
Naphthalene	**53.3**	1.20	11.0	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.98	11.0	"	"	"	CRLV	"	"	"	
Phenanthrene	**1.54**	1.02	11.0	"	"	"	CRLV	"	"	"	J
Pyrene	**1.91**	1.20	11.0	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.83	11.0	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	36.1	*33.0 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	21.5	*39.2 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	24.7	*22.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	20.9	*38.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	22.6	*20.7 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	18.5	*33.7 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 17:26	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/RC-3A

2204093-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	49.1	*98.2 %*	*83.9-122*	*2D19029*	BSF	*04/18/2022 08:00*	"	"	
1,2-Dichloroethane-d4	50.2	*100 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	39.4	*78.8 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.5	*121 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-24

2204093-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D12036	CRLV	04/12/2022 09:22	04/21/2022 16:54	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.08**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0102	*5.00 %*	*11.7-131*	"	CRLV	"	"	"	*SR06*
Nitrobenzene-d5	0.0815	*40.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.173	*85.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**61.2**	0.378	2.00	mg/L	4.0	2D06025	TKM	04/06/2022 08:00	04/06/2022 22:32	SM 4110B 2011	
Nitrate as N	**3.34**	0.079	2.00	"	"	"	TKM	"	"	"	
Ammonia as N	ND	0.03	0.21	"	1.0	2D12048	CRG	04/12/2022 12:00	04/12/2022 14:55	Lachat 10-107-06-1-I	
pH	**6.47**			pH Units	"	2D11047	SSK	04/11/2022 14:29	04/11/2022 14:29	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**392**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D08013	SCH	04/08/2022 10:00	04/19/2022 14:05	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-24

2204093-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.38	1.12	ug/L	1.0	2D12035	CRLV	04/12/2022 09:18	04/21/2022 06:04	EPA 8270D	
Carbazole	ND	2.72	8.16	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.71	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.25	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.09	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.34	4.49	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.30	1.77	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.29	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.17	3.52	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.04	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.37	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.33	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.48	*62.4 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.67	*51.4 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.78	*36.4 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.32	*44.6 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.94	*18.7 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.39	*46.0 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 17:50	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.8	*95.6 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.2	*100 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	39.6	*79.2 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.2	*120 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-128

2204093-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D12036	CRLV	04/12/2022 09:22	04/21/2022 17:35	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.06**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0105	*5.00 %*	*11.7-131*	"	CRLV	"	"	"	*SR06*
Nitrobenzene-d5	0.147	*70.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.158	*75.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**989**	4.73	25.0	mg/L	50.0	2D06025	TKM	04/06/2022 08:00	04/06/2022 23:04	SM 4110B 2011	
Nitrate as N	ND	0.985	25.0	"	"	"	TKM	"	"	"	
Ammonia as N	**10.9**	0.03	0.21	"	1.0	2D12049	CRG	04/12/2022 12:00	04/12/2022 14:56	Lachat 10-107-06-1-I	
pH	**6.39**			pH Units	"	2D11047	SSK	04/11/2022 14:35	04/11/2022 14:35	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**2580**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D08013	SCH	04/08/2022 10:00	04/19/2022 14:09	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00215	0.00500	"	5.0	"	SCH	"	04/19/2022 15:48	"	
Lead [He]	**0.00219**	0.00017	0.00100	"	1.0	"	SCH	"	04/19/2022 14:09	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Mobile/B-128

2204093-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.39	1.16	ug/L	1.0	2D12035	CRLV	04/12/2022 09:18	04/21/2022 05:28	EPA 8270D	
Carbazole	ND	2.81	8.44	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.77	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.43	1.29	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.13	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.39	4.64	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.31	1.83	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.26	1.75	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.44	1.33	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.21	3.64	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.07	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.47	1.42	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.37	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.91	*73.6 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	3.24	*60.4 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	4.62	*43.0 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.60	*48.4 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	2.49	*23.2 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.70	*50.2 %*	*28.8-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 18:13	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	49.2	*98.4 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.9	*102 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	39.6	*79.1 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.4	*121 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Trip Blank TBV#6909

2204093-08 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 18:37	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.5	*97.0 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.9	*104 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	40.0	*80.0 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.8	*122 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12036 - EPA 3510C DCN 4000 Rev 12											
Blank (2D12036-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0300*			"	*0.200*		*15.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.100*			"	*0.200*		*50.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.130*			"	*0.200*		*65.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12036 - EPA 3510C DCN 4000 Rev 12											
LCS (2D12036-BS1)											
Naphthalene	0.15	0.02	0.05	ug/L	0.200		75.0	10-145			
2-Methylnaphthalene	0.15	0.05	0.05	"	0.200		75.0	50-150			
Acenaphthylene	0.11	0.01	0.06	"	0.200		55.0	10-147			
Acenaphthene	0.12	0.02	0.05	"	0.200		60.0	10-143			
Fluorene	0.15	0.02	0.12	"	0.200		75.0	10-150			
Phenanthrene	0.19	0.02	0.06	"	0.200		95.0	10-151			
Anthracene	0.17	0.02	0.06	"	0.200		85.0	10-130			
Fluoranthene	0.16	0.03	0.06	"	0.200		80.0	10-155			
Pyrene	0.12	0.02	0.05	"	0.200		60.0	10-148			
Benzo (a) anthracene	0.14	0.02	0.06	"	0.200		70.0	38.5-141			
Chrysene	0.11	0.03	0.05	"	0.200		55.0	45.4-150			
Benzo (b) fluoranthene	0.12	0.03	0.05	"	0.200		60.0	33.6-160			
Benzo (k) fluoranthene	0.05	0.02	0.05	"	0.200		25.0	33-159			L2
Benzo (a) pyrene	0.09	0.02	0.06	"	0.200		45.0	10-177			
Indeno (1,2,3-cd) pyrene	0.05	0.02	0.17	"	0.200		25.0	10.7-171			
Dibenz (a,h) anthracene	0.05	0.04	0.16	"	0.200		25.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0400*			"	*0.200*		*20.0*	*11.7-100*			*CC-04*
Surrogate: Nitrobenzene-d5	*0.100*			"	*0.200*		*50.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.130*			"	*0.200*		*65.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12036 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D12036-BSD1)											
Naphthalene	0.15	0.02	0.05	ug/L	0.200		75.0	10-145	0.00	40	
2-Methylnaphthalene	0.16	0.05	0.05	"	0.200		80.0	50-150	6.45	40	
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147	24.0	40	
Acenaphthene	0.15	0.02	0.05	"	0.200		75.0	10-143	22.2	40	
Fluorene	0.16	0.02	0.12	"	0.200		80.0	10-150	6.45	40	
Phenanthrene	0.24	0.02	0.06	"	0.200		120	10-151	23.3	40	
Anthracene	0.21	0.02	0.06	"	0.200		105	10-130	21.1	40	
Fluoranthene	0.39	0.03	0.06	"	0.200		195	10-155	83.6	40	L1, L3
Pyrene	0.20	0.02	0.05	"	0.200		100	10-148	50.0	40	L3
Benzo (a) anthracene	0.12	0.02	0.06	"	0.200		60.0	38.5-141	15.4	40	
Chrysene	0.10	0.03	0.05	"	0.200		50.0	45.4-150	9.52	40	
Benzo (b) fluoranthene	0.12	0.03	0.05	"	0.200		60.0	33.6-160	0.00	40	
Benzo (k) fluoranthene	0.19	0.02	0.05	"	0.200		95.0	33-159	117	40	L3
Benzo (a) pyrene	0.09	0.02	0.06	"	0.200		45.0	10-177	0.00	40	
Indeno (1,2,3-cd) pyrene	0.05	0.02	0.17	"	0.200		25.0	10.7-171	0.00	40	
Dibenz (a,h) anthracene	0.04	0.04	0.16	"	0.200		20.0	16-164	22.2	40	
Surrogate: 2-Fluorobiphenyl	*0.0200*			"	*0.200*		*10.0*	*11.7-100*			*SR06*
Surrogate: Nitrobenzene-d5	*0.140*			"	*0.200*		*70.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.110*			"	*0.200*		*55.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12036 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D12036-MS1)		**Source: 2204093-02**									
Naphthalene	0.18	0.02	0.05	ug/L	0.202	ND	90.0	10-182			
2-Methylnaphthalene	0.21	0.05	0.05	"	0.202	ND	105	0-200			
Acenaphthylene	0.15	0.01	0.06	"	0.202	ND	75.0	10-200			
Acenaphthene	0.17	0.02	0.05	"	0.202	ND	85.0	10-200			
Fluorene	0.19	0.02	0.12	"	0.202	ND	95.0	10-200			
Phenanthrene	0.25	0.02	0.06	"	0.202	ND	125	46.3-156			
Anthracene	0.22	0.02	0.06	"	0.202	ND	110	12.9-149			
Fluoranthene	0.20	0.03	0.06	"	0.202	ND	100	10-200			
Pyrene	0.14	0.02	0.05	"	0.202	ND	70.0	10-191			
Benzo (a) anthracene	0.15	0.03	0.06	"	0.202	ND	75.0	19.3-191			
Chrysene	0.12	0.03	0.05	"	0.202	ND	60.0	16.5-166			
Benzo (b) fluoranthene	0.14	0.03	0.05	"	0.202	ND	70.0	17.3-163			
Benzo (k) fluoranthene	0.10	0.03	0.05	"	0.202	ND	50.0	23.7-152			
Benzo (a) pyrene	0.11	0.02	0.06	"	0.202	ND	55.0	10-200			
Indeno (1,2,3-cd) pyrene	0.06	0.03	0.17	"	0.202	ND	30.0	10-189			
Dibenz (a,h) anthracene	0.06	0.04	0.16	"	0.202	ND	30.0	51.1-147			M2
Surrogate: 2-Fluorobiphenyl	*0.0202*			"	*0.202*		*10.0*	*11.7-100*			*SR06*
Surrogate: Nitrobenzene-d5	*0.121*			"	*0.202*		*60.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.142*			"	*0.202*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06025 - Default Prep GenChem											
Blank (2D06025-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D06025-BLK2)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
LCS (2D06025-BS1)											
Chloride	10.4	0.095	0.500	mg/L	10.0		104	86.3-109			
Nitrate as N	2.15	0.020	0.500	"	2.26		95.1	81.7-111			
LCS (2D06025-BS2)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109			
Nitrate as N	2.23	0.020	0.500	"	2.26		98.6	81.7-111			
LCS Dup (2D06025-BSD1)											
Chloride	10.3	0.095	0.500	mg/L	10.0		103	86.3-109	1.16	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.6	81.7-111	2.73	20	
LCS Dup (2D06025-BSD2)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109	0.266	20	
Nitrate as N	2.11	0.020	0.500	"	2.26		93.4	81.7-111	5.49	20	
Duplicate (2D06025-DUP1)			**Source: 2204093-02**								
Chloride	23.8	0.095	0.500	mg/L		23.3			1.81	20	
Nitrate as N	ND	0.020	0.500	"		1.45			200	20	
Matrix Spike (2D06025-MS1)			**Source: 2204093-02**								
Chloride	35.9	0.095	0.500	mg/L	12.0	23.3	104	76.2-122			E-11
Nitrate as N	3.75	0.020	0.500	"	2.71	1.45	85.0	60.8-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D06025 - Default Prep GenChem											
Matrix Spike Dup (2D06025-MSD1)			**Source: 2204093-02**								
Chloride	35.9	0.095	0.500	mg/L	12.0	23.3	105	76.2-122	0.0725	20	E-11
Nitrate as N	3.63	0.020	0.500	"	2.71	1.45	80.6	60.8-130	3.28	20	
Batch 2D11047 - Default Prep GenChem											
Duplicate (2D11047-DUP1)			**Source: 2204093-06**								
pH	6.40			pH Units		6.47			1.09	5	HT-02
Duplicate (2D11047-DUP2)			**Source: 2204178-01**								
pH	6.44			pH Units		6.47			0.465	5	HT-02
Batch 2D11049 - Default Prep GenChem											
LCS (2D11049-BS1)											
Specific Conductance (EC)	1430			uS/cm	1410		101	90-110			
Duplicate (2D11049-DUP1)			**Source: 2204093-06**								
Specific Conductance (EC)	392			umhos/cm @25.0 C		392			0.00	10	
Batch 2D12048 - Default Prep GenChem											
Blank (2D12048-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2D12048-BS1)											
Ammonia as N	5.02	0.03	0.21	mg/L	5.00		100	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12048 - Default Prep GenChem											
LCS Dup (2D12048-BSD1)											
Ammonia as N	4.93	0.03	0.21	mg/L	5.00		98.6	90-110	1.81	10	
Duplicate (2D12048-DUP1)			**Source: 2204094-02**								
Ammonia as N	0.64	0.03	0.21	mg/L		0.61			3.85	10	
Matrix Spike (2D12048-MS1)			**Source: 2204055-04**								
Ammonia as N	4.93	0.03	0.21	mg/L	5.00	0.16	95.4	90-110			
Matrix Spike Dup (2D12048-MSD1)			**Source: 2204055-04**								
Ammonia as N	4.86	0.03	0.21	mg/L	5.00	0.16	94.0	90-110	1.43	10	
Batch 2D12049 - Default Prep GenChem											
Blank (2D12049-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2D12049-BS1)											
Ammonia as N	4.98	0.03	0.21	mg/L	5.00		99.6	90-110			
LCS Dup (2D12049-BSD1)											
Ammonia as N	4.97	0.03	0.21	mg/L	5.00		99.4	90-110	0.201	10	
Duplicate (2D12049-DUP1)			**Source: 2204126-01**								
Ammonia as N	1800	3.30	21.0	mg/L		1830			1.65	10	
Matrix Spike (2D12049-MS1)			**Source: 2204084-01**								
Ammonia as N	4.62	0.03	0.21	mg/L	5.00	0.11	90.2	90-110			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12049 - Default Prep GenChem											
Matrix Spike Dup (2D12049-MSD1)			**Source: 2204084-01**								**M2**
Ammonia as N	4.53	0.03	0.21	mg/L	5.00	0.11	88.4	90-110	1.97	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08013 - EPA 200.2 DCN 1017 Rev 10											
Blank (2D08013-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (2D08013-BS1)											
Arsenic [He]	0.098	0.00021	0.00200	mg/L	0.100		98.2	85-115			
Chromium [He]	0.097	0.00043	0.00100	"	0.100		97.3	85-115			
Lead [He]	0.096	0.00017	0.00100	"	0.100		96.3	85-115			
Nickel [He]	0.099	0.00016	0.0400	"	0.100		99.1	85-115			
LCS Dup (2D08013-BSD1)											
Arsenic [He]	0.100	0.00021	0.00200	mg/L	0.100		100	85-115	1.82	20	
Chromium [He]	0.098	0.00043	0.00100	"	0.100		98.0	85-115	0.656	20	
Lead [He]	0.099	0.00017	0.00100	"	0.100		98.9	85-115	2.64	20	
Nickel [He]	0.101	0.00016	0.0400	"	0.100		101	85-115	2.05	20	
Matrix Spike (2D08013-MS1)			**Source: 2204129-01**								
Arsenic [He]	0.099	0.00021	0.00200	mg/L	0.100	ND	98.8	70-130			
Chromium [He]	0.096	0.00043	0.00100	"	0.100	ND	96.1	70-130			
Lead [He]	0.097	0.00017	0.00100	"	0.100	ND	97.1	70-130			
Nickel [He]	0.094	0.00016	0.0400	"	0.100	ND	94.0	70-130			
Matrix Spike (2D08013-MS2)			**Source: 2204136-02**								
Arsenic [He]	0.117	0.00021	0.00200	mg/L	0.100	0.022	94.1	70-130			
Chromium [He]	0.093	0.00043	0.00100	"	0.100	0.006	87.4	70-130			
Lead [He]	0.098	0.00017	0.00100	"	0.100	0.0002	98.2	70-130			
Nickel [He]	0.104	0.00016	0.0400	"	0.100	0.017	86.8	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D08013 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (2D08013-MSD1)			**Source: 2204129-01**								
Arsenic [He]	0.099	0.00021	0.00200	mg/L	0.100	ND	99.1	70-130	0.236	20	
Chromium [He]	0.094	0.00043	0.00100	"	0.100	ND	94.4	70-130	1.73	20	
Lead [He]	0.098	0.00017	0.00100	"	0.100	ND	98.5	70-130	1.43	20	
Nickel [He]	0.096	0.00016	0.0400	"	0.100	ND	95.7	70-130	1.82	20	
Matrix Spike Dup (2D08013-MSD2)			**Source: 2204136-02**								
Arsenic [He]	0.117	0.00021	0.00200	mg/L	0.100	0.022	94.2	70-130	0.0786	20	
Chromium [He]	0.093	0.00043	0.00100	"	0.100	0.006	87.2	70-130	0.180	20	
Lead [He]	0.099	0.00017	0.00100	"	0.100	0.0002	99.0	70-130	0.780	20	
Nickel [He]	0.104	0.00016	0.0400	"	0.100	0.017	87.4	70-130	0.593	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
Blank (2D11025-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*38.1*			"	*100*		*38.1*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*24.6*			"	*50.0*		*49.2*	*16.9-105*			
Surrogate: 2-Fluorophenol	*24.5*			"	*100*		*24.5*	*10-100*			
Surrogate: Nitrobenzene-d5	*27.2*			"	*50.0*		*54.3*	*10-100*			
Surrogate: Phenol-d5	*20.9*			"	*100*		*20.9*	*10-112*			
Surrogate: Terphenyl-dl4	*23.1*			"	*50.0*		*46.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
LCS (2D11025-BS1)											
Acenaphthene	61.8	1.13	10.0	ug/L	100		61.8	36.1-108			
Acenaphthylene	58.8	1.07	10.0	"	100		58.8	34.6-109			
Anthracene	60.8	0.99	10.0	"	100		60.8	36.4-106			
Benzo (a) anthracene	62.6	0.87	10.0	"	100		62.6	42.9-101			
Benzo (b) fluoranthene	64.5	1.03	10.0	"	100		64.5	43.7-105			
Benzo (k) fluoranthene	62.8	1.01	10.0	"	100		62.8	38.1-112			
Benzo (a) pyrene	66.1	0.98	10.0	"	100		66.1	46.5-104			
Bis(2-ethylhexyl)phthalate	72.8	1.14	10.0	"	100		72.8	25.1-113			
Carbazole	87.3	0.90	10.0	"	100		87.3	5.43-162			
4-Chloro-3-methylphenol	65.9	1.04	10.0	"	100		65.9	39.1-106			
Chrysene	58.7	0.92	10.0	"	100		58.7	43.2-103			
Dibenz (a,h) anthracene	67.2	0.67	10.0	"	100		67.2	31-119			
Dibenzofuran	60.7	1.04	10.0	"	100		60.7	37.6-110			
2,4-Dimethylphenol	55.7	0.84	10.0	"	100		55.7	36-100			
2,4-Dinitrophenol	79.0	3.05	10.0	"	100		79.0	10.5-124			
Di-n-octyl phthalate	73.9	1.35	10.0	"	100		73.9	33.6-111			
Fluoranthene	60.1	0.93	10.0	"	100		60.1	26.4-121			
Fluorene	63.2	1.01	10.0	"	100		63.2	36.9-109			
Indeno (1,2,3-cd) pyrene	73.3	0.89	10.0	"	100		73.3	35.6-116			
2-Methylnaphthalene	41.4	1.12	10.0	"	100		41.4	34.3-102			
2-Methylphenol	49.3	0.88	10.0	"	100		49.3	35-101			
3 & 4-Methylphenol	98.2	0.87	10.0	"	200		49.1	29.4-107			
Naphthalene	52.2	1.09	10.0	"	100		52.2	36.8-100			
Pentachlorophenol	55.0	2.72	10.0	"	100		55.0	15.1-115			
Phenanthrene	61.7	0.93	10.0	"	100		61.7	36.4-110			
Pyrene	59.8	1.09	10.0	"	100		59.8	23.9-114			
2,4,6-Trichlorophenol	62.8	2.58	10.0	"	100		62.8	36-104			
Surrogate: 2,4,6-Tribromophenol	*77.3*			"	*100*		*77.3*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*30.8*			"	*50.0*		*61.6*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.7*			"	*100*		*29.7*	*10-100*			
Surrogate: Nitrobenzene-d5	*32.7*			"	*50.0*		*65.4*	*10-100*			
Surrogate: Phenol-d5	*22.8*			"	*100*		*22.8*	*10-112*			
Surrogate: Terphenyl-dl4	*23.2*			"	*50.0*		*46.4*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D11025-BSD1)											
Acenaphthene	61.9	1.13	10.0	ug/L	100		61.9	36.1-108	0.162	40	
Acenaphthylene	59.8	1.07	10.0	"	100		59.8	34.6-109	1.60	40	
Anthracene	62.4	0.99	10.0	"	100		62.4	36.4-106	2.71	40	
Benzo (a) anthracene	64.7	0.87	10.0	"	100		64.7	42.9-101	3.22	40	
Benzo (b) fluoranthene	66.2	1.03	10.0	"	100		66.2	43.7-105	2.63	40	
Benzo (k) fluoranthene	60.4	1.01	10.0	"	100		60.4	38.1-112	3.91	40	
Benzo (a) pyrene	65.1	0.98	10.0	"	100		65.1	46.5-104	1.48	40	
Bis(2-ethylhexyl)phthalate	74.8	1.14	10.0	"	100		74.8	25.1-113	2.74	40	
Carbazole	87.2	0.90	10.0	"	100		87.2	5.43-162	0.160	40	
4-Chloro-3-methylphenol	62.0	1.04	10.0	"	100		62.0	39.1-106	6.02	40	
Chrysene	60.7	0.92	10.0	"	100		60.7	43.2-103	3.37	40	
Dibenz (a,h) anthracene	66.2	0.67	10.0	"	100		66.2	31-119	1.59	40	
Dibenzofuran	62.3	1.04	10.0	"	100		62.3	37.6-110	2.52	40	
2,4-Dimethylphenol	53.2	0.84	10.0	"	100		53.2	36-100	4.44	40	
2,4-Dinitrophenol	98.3	3.05	10.0	"	100		98.3	10.5-124	21.7	40	
Di-n-octyl phthalate	71.6	1.35	10.0	"	100		71.6	33.6-111	3.23	40	
Fluoranthene	61.7	0.93	10.0	"	100		61.7	26.4-121	2.56	40	
Fluorene	64.4	1.01	10.0	"	100		64.4	36.9-109	1.82	40	
Indeno (1,2,3-cd) pyrene	72.5	0.89	10.0	"	100		72.5	35.6-116	1.11	40	
2-Methylnaphthalene	39.4	1.12	10.0	"	100		39.4	34.3-102	4.97	40	
2-Methylphenol	42.7	0.88	10.0	"	100		42.7	35-101	14.5	40	
3 & 4-Methylphenol	83.5	0.87	10.0	"	200		41.7	29.4-107	16.2	40	
Naphthalene	50.0	1.09	10.0	"	100		50.0	36.8-100	4.31	40	
Pentachlorophenol	50.7	2.72	10.0	"	100		50.7	15.1-115	8.21	40	
Phenanthrene	62.7	0.93	10.0	"	100		62.7	36.4-110	1.64	40	
Pyrene	66.6	1.09	10.0	"	100		66.6	23.9-114	10.7	40	
2,4,6-Trichlorophenol	60.1	2.58	10.0	"	100		60.1	36-104	4.31	40	
Surrogate: 2,4,6-Tribromophenol	*165*			"	*100*		*165*	*16.7-116*			*SR05*
Surrogate: 2-Fluorobiphenyl	*54.7*			"	*50.0*		*109*	*16.9-110*			
Surrogate: 2-Fluorophenol	*50.4*			"	*100*		*50.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*51.1*			"	*50.0*		*102*	*10-110*			
Surrogate: Phenol-d5	*37.2*			"	*100*		*37.2*	*10-112*			
Surrogate: Terphenyl-dl4	*46.8*			"	*50.0*		*93.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D11025-DUP1)			**Source: 2204093-04**								
Acenaphthene	251	11.4	101	ug/L		344			31.2	45	
Acenaphthylene	ND	1.08	10.1	"		ND				45	
Anthracene	8.51	0.99	10.1	"		11.2			27.0	45	J
Benzo (a) anthracene	ND	0.88	10.1	"		ND				45	
Benzo (b) fluoranthene	ND	1.04	10.1	"		ND				45	
Benzo (k) fluoranthene	ND	1.02	10.1	"		ND				45	
Benzo (a) pyrene	ND	0.98	10.1	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.15	10.1	"		ND				45	
Carbazole	373	9.02	101	"		548			38.1	45	
4-Chloro-3-methylphenol	ND	1.05	10.1	"		ND				45	
Chrysene	ND	0.93	10.1	"		ND				45	
Dibenz (a,h) anthracene	ND	0.67	10.1	"		ND				45	
Dibenzofuran	92.7	1.05	10.1	"		104			11.4	45	
2,4-Dimethylphenol	ND	0.85	10.1	"		ND				45	
2,4-Dinitrophenol	ND	3.07	10.1	"		ND				45	
Di-n-octyl phthalate	ND	1.36	10.1	"		ND				45	
Fluoranthene	11.1	0.94	10.1	"		13.8			21.9	45	
Fluorene	108	1.02	10.1	"		180			50.4	45	P3
Indeno (1,2,3-cd) pyrene	ND	0.89	10.1	"		ND				45	
2-Methylnaphthalene	4.58	1.13	10.1	"		5.33			15.1	45	J
2-Methylphenol	ND	0.89	10.1	"		ND				45	
3 & 4-Methylphenol	ND	0.88	10.1	"		ND				45	
Naphthalene	434	11.0	101	"		515			17.1	45	
Pentachlorophenol	ND	2.74	10.1	"		ND				45	
Phenanthrene	92.3	0.93	10.1	"		107			14.4	45	
Pyrene	4.48	1.10	10.1	"		5.41			18.8	45	J
2,4,6-Trichlorophenol	ND	2.60	10.1	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*51.5*			"	*101*		*51.2*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*24.7*			"	*50.3*		*49.0*	*16.9-105*			
Surrogate: 2-Fluorophenol	*22.4*			"	*101*		*22.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*19.3*			"	*50.3*		*38.4*	*10-100*			
Surrogate: Phenol-d5	*18.4*			"	*101*		*18.3*	*10-112*			
Surrogate: Terphenyl-dl4	*16.4*			"	*50.3*		*32.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11025 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D11025-MS1)		**Source: 2204093-04**									
Acenaphthene	392	11.4	101	ug/L	101	344	47.4	10-121			
Acenaphthylene	60.0	1.08	10.1	"	101	ND	59.4	19-110			
Anthracene	76.5	1.00	10.1	"	101	11.2	64.7	16.1-116			
Benzo (a) anthracene	69.5	0.88	10.1	"	101	ND	68.8	27.7-107			
Benzo (b) fluoranthene	69.1	1.04	10.1	"	101	ND	68.5	23.3-117			
Benzo (k) fluoranthene	70.9	1.02	10.1	"	101	ND	70.3	20.4-113			
Benzo (a) pyrene	72.2	0.98	10.1	"	101	ND	71.6	34.6-101			
Bis(2-ethylhexyl)phthalate	74.3	1.15	10.1	"	101	ND	73.6	10-108			
Carbazole	634	9.05	101	"	101	548	84.9	10-159			
4-Chloro-3-methylphenol	1.59	1.05	10.1	"	101	ND	1.58	19.8-110			M2
Chrysene	62.1	0.93	10.1	"	101	ND	61.5	25.6-113			
Dibenz (a,h) anthracene	74.0	0.68	10.1	"	101	ND	73.3	15.9-129			
Dibenzofuran	137	1.05	10.1	"	101	104	32.6	10-115			
2,4-Dimethylphenol	51.5	0.85	10.1	"	101	ND	51.0	17.2-115			
2,4-Dinitrophenol	96.3	3.08	10.1	"	101	ND	95.5	10-129			
Di-n-octyl phthalate	82.2	1.36	10.1	"	101	ND	81.5	21.1-102			
Fluoranthene	79.7	0.94	10.1	"	101	13.8	65.3	15-119			
Fluorene	165	1.02	10.1	"	101	180	NR	10-125			M5
Indeno (1,2,3-cd) pyrene	80.5	0.89	10.1	"	101	ND	79.8	18.2-129			
2-Methylnaphthalene	39.4	1.13	10.1	"	101	5.33	33.7	10-117			
2-Methylphenol	ND	0.89	10.1	"	101	ND		10-106			M2
3 & 4-Methylphenol	101	0.88	10.1	"	202	ND	49.9	10-102			
Naphthalene	551	11.0	101	"	101	515	35.7	19.6-98.1			
Pentachlorophenol	91.6	2.74	10.1	"	101	ND	90.8	10-125			
Phenanthrene	148	0.94	10.1	"	101	107	41.5	16.9-120			
Pyrene	62.7	1.10	10.1	"	101	5.41	56.8	12.3-105			
2,4,6-Trichlorophenol	63.3	2.60	10.1	"	101	ND	62.7	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*116*			"	*101*		*115*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*31.6*			"	*50.5*		*62.6*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.5*			"	*101*		*29.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*27.1*			"	*50.5*		*53.7*	*10-100*			
Surrogate: Phenol-d5	*28.9*			"	*101*		*28.7*	*10-112*			
Surrogate: Terphenyl-dl4	*32.9*			"	*50.5*		*65.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12035 - EPA 3510C DCN 4000 Rev 12											
Blank (2D12035-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							CC-01
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*12.1*			*"*	*10.0*		*121*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*5.28*			*"*	*5.00*		*106*	*21.3-130*			
Surrogate: 2-Fluorophenol	*7.11*			*"*	*10.0*		*71.1*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.49*			*"*	*5.00*		*89.8*	*18.4-100*			
Surrogate: Phenol-d5	*3.67*			*"*	*10.0*		*36.7*	*10-126*			
Surrogate: Terphenyl-dl4	*4.45*			*"*	*5.00*		*89.0*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12035 - EPA 3510C DCN 4000 Rev 12											
LCS (2D12035-BS1)											
Acenaphthene	13.8	0.16	1.08	ug/L	20.0		68.8	21.2-115			
Acenaphthylene	13.2	0.11	1.16	"	20.0		66.2	17.4-116			
Anthracene	16.3	0.13	1.29	"	20.0		81.6	19.4-120			
Benzo (a) anthracene	16.7	0.18	0.92	"	20.0		83.5	31.6-117			
Benzo (b) fluoranthene	17.0	0.18	1.43	"	20.0		85.1	24.6-128			
Benzo (k) fluoranthene	16.8	0.17	0.85	"	20.0		84.1	19.5-128			
Benzo (a) pyrene	16.7	0.20	1.25	"	20.0		83.6	34.2-116			
Bis(2-ethylhexyl)phthalate	18.3	0.37	1.08	"	20.0		91.4	42.2-107			
Carbazole	17.3	2.62	7.86	"	20.0		86.7	30.1-145			
4-Chloro-3-methylphenol	16.5	0.27	1.65	"	20.0		82.6	43.1-105			
Chrysene	15.8	0.15	0.89	"	20.0		78.9	42.1-106			
Dibenz (a,h) anthracene	17.5	0.25	1.78	"	20.0		87.6	23.1-136			
Dibenzofuran	13.8	0.40	1.20	"	20.0		69.1	25-127			
2,4-Dimethylphenol	18.9	0.19	1.05	"	20.0		94.4	31.6-95.8			
2,4-Dinitrophenol	14.8	1.29	4.32	"	20.0		74.0	22.1-108			CC-03
Di-n-octyl phthalate	17.8	0.29	1.70	"	20.0		89.1	42.9-108			
Fluoranthene	16.3	0.20	1.50	"	20.0		81.4	47.7-104			
Fluorene	14.6	0.16	1.19	"	20.0		72.8	49.1-98.2			
Indeno (1,2,3-cd) pyrene	16.1	0.25	1.63	"	20.0		80.7	27.8-136			
2-Methylnaphthalene	11.3	0.05	1.28	"	20.0		56.7	22.3-108			
2-Methylphenol	13.1	0.41	1.24	"	20.0		65.4	15.8-123			
3 & 4-Methylphenol	25.0	1.13	3.39	"	40.0		62.5	11.1-130			
Naphthalene	11.2	0.15	0.99	"	20.0		56.0	22.1-109			
Pentachlorophenol	8.19	0.06	1.00	"	20.0		41.0	28.8-111			
Phenanthrene	15.2	0.15	1.20	"	20.0		75.8	22.1-115			
Pyrene	15.9	0.22	0.58	"	20.0		79.4	19-108			
2,4,6-Trichlorophenol	16.3	0.44	1.32	"	20.0		81.6	44.4-104			
1-Methylnaphthalene	11.4	0.05	1.28	"	20.0		57.0	23.7-97.4			
Surrogate: 2,4,6-Tribromophenol	*16.1*			"	*10.0*		*161*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*6.47*			"	*5.00*		*129*	*21.3-130*			
Surrogate: 2-Fluorophenol	*8.56*			"	*10.0*		*85.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*6.36*			"	*5.00*		*127*	*18.4-130*			
Surrogate: Phenol-d5	*5.23*			"	*10.0*		*52.3*	*10-126*			
Surrogate: Terphenyl-dl4	*4.52*			"	*5.00*		*90.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12035 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D12035-BSD1)											
Acenaphthene	15.5	0.16	1.08	ug/L	20.0		77.7	21.2-115	12.2	48	
Acenaphthylene	15.2	0.11	1.16	"	20.0		76.0	17.4-116	13.8	74	
Anthracene	18.6	0.13	1.29	"	20.0		93.0	19.4-120	13.1	66	
Benzo (a) anthracene	19.1	0.18	0.92	"	20.0		95.3	31.6-117	13.2	53	
Benzo (b) fluoranthene	19.1	0.18	1.43	"	20.0		95.3	24.6-128	11.3	71	
Benzo (k) fluoranthene	19.1	0.17	0.85	"	20.0		95.4	19.5-128	12.6	63	
Benzo (a) pyrene	19.1	0.20	1.25	"	20.0		95.5	34.2-116	13.3	72	
Bis(2-ethylhexyl)phthalate	20.1	0.37	1.08	"	20.0		100	42.2-107	9.29	82	
Carbazole	19.5	2.62	7.86	"	20.0		97.3	30.1-145	11.6	40	
4-Chloro-3-methylphenol	20.2	0.27	1.65	"	20.0		101	43.1-105	20.2	73	
Chrysene	18.1	0.15	0.89	"	20.0		90.3	42.1-106	13.5	87	
Dibenz (a,h) anthracene	22.2	0.25	1.78	"	20.0		111	23.1-136	23.4	126	
Dibenzofuran	15.6	0.40	1.20	"	20.0		77.8	25-127	11.8	40	
2,4-Dimethylphenol	24.2	0.19	1.05	"	20.0		121	31.6-130	24.8	58	
2,4-Dinitrophenol	21.8	1.29	4.32	"	20.0		109	22.1-130	38.4	132	CC-03
Di-n-octyl phthalate	18.8	0.29	1.70	"	20.0		94.0	42.9-108	5.30	69	
Fluoranthene	19.0	0.20	1.50	"	20.0		94.9	47.7-104	15.3	66	
Fluorene	16.2	0.16	1.19	"	20.0		81.2	49.1-98.2	10.8	38	
Indeno (1,2,3-cd) pyrene	20.3	0.25	1.63	"	20.0		101	27.8-136	22.7	99	
2-Methylnaphthalene	13.9	0.05	1.28	"	20.0		69.6	22.3-108	20.4	40	
2-Methylphenol	17.1	0.41	1.24	"	20.0		85.3	15.8-123	26.4	40	
3 & 4-Methylphenol	32.3	1.13	3.39	"	40.0		80.8	11.1-130	25.6	40	
Naphthalene	14.0	0.15	0.99	"	20.0		70.1	22.1-109	22.3	65	
Pentachlorophenol	16.5	0.06	1.00	"	20.0		82.7	28.8-111	67.5	86	
Phenanthrene	17.0	0.15	1.20	"	20.0		85.0	22.1-115	11.4	39	
Pyrene	17.1	0.22	0.58	"	20.0		85.7	19-108	7.63	49	
2,4,6-Trichlorophenol	19.8	0.44	1.32	"	20.0		99.2	44.4-104	19.5	58	
1-Methylnaphthalene	14.0	0.05	1.28	"	20.0		70.0	23.7-97.4	20.5	40	
Surrogate: 2,4,6-Tribromophenol	*18.7*			"	*10.0*		*187*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*7.31*			"	*5.00*		*146*	*21.3-150*			
Surrogate: 2-Fluorophenol	*11.4*			"	*10.0*		*114*	*0-200*			
Surrogate: Nitrobenzene-d5	*8.15*			"	*5.00*		*163*	*18.4-100*			*SR06*
Surrogate: Phenol-d5	*6.72*			"	*10.0*		*67.2*	*10-126*			
Surrogate: Terphenyl-dl4	*4.77*			"	*5.00*		*95.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12035 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D12035-DUP1)			**Source: 2204093-01**								
Acenaphthene	ND	0.17	1.10	ug/L		ND				45	
Acenaphthylene	ND	0.11	1.18	"		ND				45	
Anthracene	ND	0.13	1.31	"		ND				45	
Benzo (a) anthracene	ND	0.19	0.94	"		ND				45	
Benzo (b) fluoranthene	ND	0.19	1.46	"		ND				45	
Benzo (k) fluoranthene	ND	0.17	0.87	"		ND				45	
Benzo (a) pyrene	ND	0.21	1.27	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	"		ND				45	
Carbazole	ND	2.67	8.00	"		ND				45	
4-Chloro-3-methylphenol	ND	0.28	1.68	"		ND				45	
Chrysene	ND	0.16	0.91	"		ND				45	
Dibenz (a,h) anthracene	ND	0.25	1.81	"		ND				45	
Dibenzofuran	ND	0.41	1.22	"		ND				45	
2,4-Dimethylphenol	ND	0.19	1.07	"		ND				45	
2,4-Dinitrophenol	ND	1.31	4.40	"		ND				45	CC-01
Di-n-octyl phthalate	ND	0.29	1.73	"		ND				45	
Fluoranthene	ND	0.21	1.53	"		ND				45	
Fluorene	ND	0.16	1.21	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.25	1.66	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.30	"		ND				45	
2-Methylphenol	ND	0.42	1.26	"		ND				45	
3 & 4-Methylphenol	ND	1.15	3.45	"		ND				45	
Naphthalene	ND	0.16	1.01	"		ND				45	
Pentachlorophenol	ND	0.06	1.02	"		ND				45	
Phenanthrene	ND	0.15	1.22	"		ND				45	
Pyrene	ND	0.22	0.59	"		ND				45	
2,4,6-Trichlorophenol	ND	0.45	1.34	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.30	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*15.7*			"	*10.2*		*154*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*6.37*			"	*5.09*		*125*	*21.3-130*			
Surrogate: 2-Fluorophenol	*7.77*			"	*10.2*		*76.3*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.80*			"	*5.09*		*94.2*	*18.4-100*			
Surrogate: Phenol-d5	*4.82*			"	*10.2*		*47.3*	*10-126*			
Surrogate: Terphenyl-dl4	*4.75*			"	*5.09*		*93.2*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12035 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D12035-MS1)		**Source: 2204093-01**									
Acenaphthene	14.9	0.17	1.09	ug/L	20.2	ND	73.8	36.4-100			
Acenaphthylene	12.8	0.11	1.17	"	20.2	ND	63.4	35.5-100			
Anthracene	15.5	0.13	1.30	"	20.2	ND	76.9	39.6-100			
Benzo (a) anthracene	15.7	0.19	0.93	"	20.2	ND	77.9	37.9-100			
Benzo (b) fluoranthene	15.3	0.18	1.44	"	20.2	ND	76.0	34.4-105			
Benzo (k) fluoranthene	15.9	0.17	0.86	"	20.2	ND	78.6	32.7-100			
Benzo (a) pyrene	16.0	0.20	1.26	"	20.2	ND	79.2	40.6-100			
Bis(2-ethylhexyl)phthalate	13.8	0.37	1.09	"	20.2	ND	68.6	8-158			
Carbazole	13.1	2.64	7.93	"	20.2	ND	64.8	15.3-151			
4-Chloro-3-methylphenol	12.0	0.28	1.66	"	20.2	ND	59.6	22-147			
Chrysene	14.8	0.16	0.90	"	20.2	ND	73.6	34.8-100			
Dibenz (a,h) anthracene	19.1	0.25	1.80	"	20.2	ND	94.5	10-176			
Dibenzofuran	13.7	0.40	1.21	"	20.2	ND	68.1	38.3-107			
2,4-Dimethylphenol	7.94	0.19	1.06	"	20.2	ND	39.4	32-120			
2,4-Dinitrophenol	15.2	1.30	4.36	"	20.2	ND	75.6	5-191			CC-03
Di-n-octyl phthalate	14.4	0.29	1.72	"	20.2	ND	71.3	4-146			
Fluoranthene	15.3	0.20	1.51	"	20.2	ND	76.0	44.8-100			
Fluorene	13.9	0.16	1.20	"	20.2	ND	68.9	40.1-100			
Indeno (1,2,3-cd) pyrene	17.5	0.25	1.64	"	20.2	ND	86.9	10-173			
2-Methylnaphthalene	12.1	0.05	1.29	"	20.2	ND	59.9	16.6-107			
2-Methylphenol	9.85	0.42	1.25	"	20.2	ND	48.8	7.21-120			
3 & 4-Methylphenol	12.9	1.14	3.42	"	40.4	ND	32.1	8-134			
Naphthalene	12.0	0.16	1.00	"	20.2	ND	59.5	29.1-100			
Pentachlorophenol	18.1	0.06	1.01	"	20.2	ND	89.9	14-176			
Phenanthrene	15.3	0.15	1.21	"	20.2	ND	75.9	40.7-100			
Pyrene	13.5	0.22	0.59	"	20.2	ND	66.8	40.6-100			
2,4,6-Trichlorophenol	16.9	0.44	1.33	"	20.2	ND	83.8	37-144			
1-Methylnaphthalene	12.8	0.05	1.29	"	20.2	ND	63.2	18.5-100			
Surrogate: 2,4,6-Tribromophenol	*14.4*			"	*10.1*		*142*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*6.09*			"	*5.05*		*121*	*21.3-130*			
Surrogate: 2-Fluorophenol	*6.03*			"	*10.1*		*59.8*	*0-200*			
Surrogate: Nitrobenzene-d5	*4.57*			"	*5.05*		*90.6*	*18.4-100*			
Surrogate: Phenol-d5	*3.80*			"	*10.1*		*37.7*	*10-126*			
Surrogate: Terphenyl-dl4	*3.27*			"	*5.05*		*64.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D19029 - EPA 5030B											
Blank (2D19029-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.1*			"	*50.0*		*98.2*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*40.2*			"	*50.0*		*80.4*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*61.3*			"	*50.0*		*123*	*80.4-130*			
LCS (2D19029-BS1)											
Benzene	23.2	0.258	5.00	ug/L	20.0		116	64.2-144			
Ethylbenzene	21.0	0.190	5.00	"	20.0		105	64.9-150			
Surrogate: Dibromofluoromethane	*50.5*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.9*			"	*50.0*		*106*	*87.4-116*			
Surrogate: Toluene-d8	*40.4*			"	*50.0*		*80.7*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*60.8*			"	*50.0*		*122*	*80.4-130*			
LCS Dup (2D19029-BSD1)											
Benzene	23.1	0.258	5.00	ug/L	20.0		115	64.2-144	0.735	30	
Ethylbenzene	21.1	0.190	5.00	"	20.0		105	64.9-150	0.333	30	
Surrogate: Dibromofluoromethane	*50.7*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.1*			"	*50.0*		*108*	*87.4-116*			
Surrogate: Toluene-d8	*41.3*			"	*50.0*		*82.6*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*61.8*			"	*50.0*		*124*	*80.4-130*			
Matrix Spike (2D19029-MS1)		**Source: 2204093-04**									
Benzene	27.6	0.258	5.00	ug/L	20.0	ND	138	70-149			
Ethylbenzene	29.7	0.190	5.00	"	20.0	8.71	105	70.2-150			
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.6*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*39.6*			"	*50.0*		*79.1*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*61.9*			"	*50.0*		*124*	*80.4-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D19029 - EPA 5030B											
Matrix Spike Dup (2D19029-MSD1)			**Source: 2204093-04**								
Benzene	25.6	0.258	5.00	ug/L	20.0	ND	128	70-149	7.48	35	
Ethylbenzene	27.9	0.190	5.00	"	20.0	8.71	96.0	70.2-150	6.18	35	
Surrogate: Dibromofluoromethane	*51.6*			*"*	*50.0*		*103*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.8*			*"*	*50.0*		*106*	*87.4-116*			
Surrogate: Toluene-d8	*40.4*			*"*	*50.0*		*80.7*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*60.8*			*"*	*50.0*		*122*	*80.4-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:05

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:05

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Howard Mitch Spicer	HMS
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Stella S Kleist	SSK
Steven Tobias	SWT
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2204093

Company Name: CAVENHAM FOREST IND	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 30404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
_xNormal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

QC Level: Level 1 ☐ Level 2 ☒ Level 3 ☐

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	Preservative:	PHCOND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
B-97	4-5-22/10:30	W	9	G		X	X	X	X	X	X	X
B-65	4-5-22/10:55	W	9	G		X	X	X	X	X	X	X
B-60A	4-5-22/12:30	W	9	G		X	X	X	X	X	X	X
RC-2A	4-5-22/13:00	W	11	G		X	X	X	X	X	X	X
RC-3A	4-5-22/13:15	W	11	G		X	X	X	X	X	X	X
B-24	4-5-22/14:00	W	9	G		X	X	X	X	X	X	X
B-128	4-5-22/14:30	W	9	G		X	X	X	X	X	X	X
TBV# 6909	4-5-22/10:30	W	2	G								X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 5 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	4-6-22	8:05
Received by	Sarah Tomek	Sarah Tomek	MM	4/6/22	0805
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 0.9°C
client cooler #2 0.3°C
client cooler #3 2.6°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

December 20, 2022

Ethan Allen

Work Order # : 2204164

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

Purchase Order #: MO Qrtly Wells

RE: Mobile Quarterly Wells New Permit

Enclosed are Micro-Methods Laboratory, Inc. results of analyses performed on samples received 04/08/2022 08:20. If you have any questions concerning this report, please feel free to contact the office.

Sincerely

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/E-1	2204164-01	Water	04/07/2022 16:30	*Jeff Gonsoulin*	04/08/2022 08:20
Mobile/B-108A	2204164-02	Water	04/07/2022 17:10	*Jeff Gonsoulin*	04/08/2022 08:20
Mobile/B-101	2204164-03	Water	04/07/2022 17:40	*Jeff Gonsoulin*	04/08/2022 08:20
Trip Blank TBV#6903	2204164-04	Water	04/07/2022 16:30	*Micro Methods*	04/08/2022 08:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Sample Receipt Conditions

Date/Time Received: 4/8/2022 8:20:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 4/8/2022 8:35:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.9 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:07

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:07

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Acenaphthene
2204164-03[Mobile/B-101]

M2 MS/MSD Recovery below acceptable limit.

Dibenz (a,h) anthracene
2D13031-MS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Acenaphthene, Fluoranthene
2D13029-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, Dibenzofuran, Fluoranthene, Naphthalene, Phenanthrene
2D13031-DUP1, 2D13029-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl
2204164-01[Mobile/E-1]

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Terphenyl-dl4
2204164-01[Mobile/E-1]

SR16 The surrogate recovery for this sample is outside of established control limits.

2-Fluorobiphenyl, Phenol-d5, Terphenyl-dl4
2D13029-BLK1

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:07

Anions-SM 4110B 2011

Qualifiers:

E-11 The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

Chloride

2D11032-MS1, 2D11032-MSD1

HT-06 The original analysis of this sample yielded QC recoveries outside acceptance criteria. It was re-analyzed after the recommended maximum hold time for confirmation of reported results.

Nitrate as N

2204164-01[Mobile/E-1]

M2 MS/MSD Recovery below acceptable limit.

Nitrate as N

2D11032-MSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Chloride

2D11032-MS1, 2D11032-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2204164-01[Mobile/E-1], 2204164-02[Mobile/B-108A], 2204164-03[Mobile/B-101], 2D11047-DUP1, 2D11047-DUP2

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Mobile/E-1

2204164-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.37**	0.02	0.05	ug/L	1.0	2D13031	CRLV	04/13/2022 09:42	04/14/2022 22:59	EPA 8270D	
Indeno (1,2,3-cd) pyrene	**0.39**	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.00	*%*	*11.7-131*	"	CRLV	"	"	"	*SR01*
Nitrobenzene-d5	0.0931	*45.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.186	*90.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**696**	4.73	25.0	mg/L	50.0	2D11032	TKM	04/08/2022 08:00	04/12/2022 13:08	SM 4110B 2011	
Nitrate as N	**11.6**	0.985	10.0	"	"	"	TKM	"	"	"	HT-06
Ammonia as N	**18.1**	0.03	0.21	"	1.0	2D13050	CRG	04/13/2022 13:00	04/13/2022 14:09	Lachat 10-107-06-1-I	
pH	**6.92**			pH Units	"	2D11047	SSK	04/11/2022 14:38	04/11/2022 14:38	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**2330**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D12046	SCH	04/12/2022 09:30	04/19/2022 16:06	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00581**	0.00215	0.00500	"	5.0	"	SCH	"	04/19/2022 18:48	"	
Lead [He]	ND	0.00017	0.00100	"	1.0	"	SCH	"	04/19/2022 16:06	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Mobile/E-1

2204164-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**77.4**	0.17	1.13	ug/L	1.0	2D13029	CRLV	04/13/2022 09:40	04/22/2022 13:53	EPA 8270D	
Acenaphthylene	**3.68**	0.12	1.21	"	"	"	CRLV	"	04/20/2022 16:25	"	
Anthracene	**0.88**	0.13	0.84	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**4.96**	0.19	0.96	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**4.20**	0.19	1.49	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**1.06**	0.18	0.89	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**2.66**	0.21	1.30	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**2.22**	0.38	1.13	"	"	"	CRLV	"	"	"	
Carbazole	ND	2.73	8.20	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.72	"	"	"	CRLV	"	"	"	
Chrysene	**5.49**	0.16	0.93	"	"	"	CRLV	"	"	"	
Dibenzofuran	**4.99**	0.42	1.25	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.10	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.35	4.51	"	"	"	CRLV	"	04/22/2022 13:53	"	
Di-n-octyl phthalate	ND	0.30	1.77	"	"	"	CRLV	"	04/20/2022 16:25	"	
Fluoranthene	**28.9**	0.21	1.57	"	"	"	CRLV	"	04/22/2022 13:53	"	
Fluorene	**3.16**	0.17	1.24	"	"	"	CRLV	"	04/20/2022 16:25	"	
2-Methylnaphthalene	**1.76**	0.05	1.34	"	"	"	CRLV	"	04/20/2022 13:53	"	
2-Methylphenol	ND	0.43	1.29	"	"	"	CRLV	"	04/20/2022 16:25	"	
3 & 4-Methylphenol	ND	1.18	3.54	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.04	"	"	"	CRLV	"	"	"	
Phenanthrene	**1.73**	0.15	1.25	"	"	"	CRLV	"	"	"	
Pyrene	**19.0**	0.23	0.61	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.38	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.34	"	"	"	CRLV	"	04/22/2022 13:53	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	4.70	*45.0 %*	*0-200*	"	CRLV	"	*04/20/2022 16:25*	"	
2-Fluorobiphenyl	1.75	*33.6 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.23	*21.4 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.48	*28.4 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.33	*12.7 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	1.41	*27.0 %*	*28.8-100*	"	CRLV	"	"	"	*SR06*

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**19.1**	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 19:01	EPA 8260D	
Ethylbenzene	**8.30**	0.190	5.00	"	"	"	BSF	"	"	"	

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:07

Mobile/E-1

2204164-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.3	*96.6 %*	*83.9-122*	*2D19029*	BSF	*04/18/2022 08:00*	"	"	
1,2-Dichloroethane-d4	51.3	*103 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	39.6	*79.2 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.8	*122 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Mobile/B-108A

2204164-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2D13031	CRLV	04/13/2022 09:42	04/14/2022 23:40	EPA 8270D	
2-Methylnaphthalene	ND	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.05**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.07**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0708	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.101	*50.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.121	*60.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**1430**	47.3	250	mg/L	500.0	2D11032	TKM	04/08/2022 08:00	04/12/2022 14:05	SM 4110B 2011	
Nitrate as N	ND	0.020	0.500	"	1.0	"	TKM	"	04/08/2022 14:28	"	
Ammonia as N	**6.34**	0.03	0.21	"	"	2D13050	CRG	04/13/2022 13:00	04/13/2022 14:44	Lachat 10-107-06-1-I	
pH	**6.61**			pH Units	"	2D11047	SSK	04/11/2022 14:41	04/11/2022 14:41	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**2870**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00105	0.0100	mg/L	5.0	2D12046	SCH	04/12/2022 09:30	04/19/2022 18:53	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00215	0.00500	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	1.0	"	SCH	"	04/19/2022 16:10	"	
Nickel [He]	ND	0.00078	0.200	"	5.0	"	SCH	"	04/19/2022 18:53	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Mobile/B-108A

2204164-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.39	1.15	ug/L	1.0	2D13029	CRLV	04/13/2022 09:40	04/20/2022 20:34	EPA 8270D	
Carbazole	ND	2.78	8.34	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.29	1.75	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.11	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.37	4.58	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.31	1.80	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.44	1.31	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.20	3.59	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.06	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.47	1.40	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.36	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.77	*73.3 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	3.37	*63.6 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	5.36	*50.5 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.66	*50.2 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	3.34	*31.5 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.00	*56.6 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 19:25	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.9	*97.7 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	52.8	*106 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	40.2	*80.4 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	61.8	*124 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Mobile/B-101

2204164-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.09**	0.02	0.05	ug/L	1.0	2D13031	CRLV	04/13/2022 09:42	04/15/2022 00:21	EPA 8270D	
2-Methylnaphthalene	**0.05**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	J
Fluorene	ND	0.02	0.12	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.12**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.07**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0605	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.111	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.121	*60.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**54.9**	0.473	2.50	mg/L	5.0	2D11032	TKM	04/08/2022 08:00	04/12/2022 15:24	SM 4110B 2011	
Nitrate as N	ND	0.020	0.500	"	1.0	"	TKM	"	04/08/2022 15:00	"	
Ammonia as N	ND	0.03	0.21	"	"	2D13050	CRG	04/13/2022 13:00	04/13/2022 14:45	Lachat 10-107-06-1-I	
pH	**6.29**			pH Units	"	2D11047	SSK	04/11/2022 14:48	04/11/2022 14:48	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**364**			umhos/cm @25.0 C	"	2D11049	SSK	04/11/2022 14:30	04/11/2022 14:30	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	2D12046	SCH	04/12/2022 09:30	04/19/2022 16:14	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00215	0.00500	"	5.0	"	SCH	"	04/19/2022 18:57	"	
Lead [He]	ND	0.00017	0.00100	"	1.0	"	SCH	"	04/19/2022 16:14	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Mobile/B-101

2204164-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.09	ug/L	1.0	2D13029	CRLV	04/13/2022 09:40	04/20/2022 17:36	EPA 8270D	
Carbazole	ND	2.65	7.94	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.67	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.40	1.21	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.19	1.06	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.30	4.36	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.29	1.72	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.25	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.14	3.42	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.06	1.01	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.44	1.33	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.29	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.26	*71.9 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	3.23	*64.0 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	4.37	*43.3 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.71	*53.6 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	2.54	*25.1 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.38	*47.2 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 19:48	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.1	*96.2 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	51.8	*104 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	39.7	*79.4 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.8	*122 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Trip Blank TBV#6903

2204164-04 (Water)

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	ND	0.258	5.00	ug/L	1.0	2D19029	BSF	04/18/2022 08:00	04/18/2022 20:12	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	48.1	*96.2 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.5	*101 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	39.9	*79.7 %*	*70-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	60.6	*121 %*	*80.4-130*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13031 - EPA 3510C DCN 4000 Rev 12											
Blank (2D13031-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0700*			"	*0.200*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0800*			"	*0.200*		*40.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13031 - EPA 3510C DCN 4000 Rev 12											
LCS (2D13031-BS1)											
Naphthalene	0.20	0.02	0.05	ug/L	0.200		100	10-145			
2-Methylnaphthalene	0.22	0.05	0.05	"	0.200		110	50-150			
Acenaphthylene	0.17	0.01	0.06	"	0.200		85.0	10-147			
Acenaphthene	0.23	0.02	0.05	"	0.200		115	10-143			
Fluorene	0.24	0.02	0.12	"	0.200		120	10-150			
Phenanthrene	0.28	0.02	0.06	"	0.200		140	10-151			
Anthracene	0.23	0.02	0.06	"	0.200		115	10-130			
Fluoranthene	0.25	0.03	0.06	"	0.200		125	10-155			
Pyrene	0.18	0.02	0.05	"	0.200		90.0	10-148			
Benzo (a) anthracene	0.18	0.02	0.06	"	0.200		90.0	38.5-141			
Chrysene	0.17	0.03	0.05	"	0.200		85.0	45.4-150			
Benzo (b) fluoranthene	0.20	0.03	0.05	"	0.200		100	33.6-160			
Benzo (k) fluoranthene	0.08	0.02	0.05	"	0.200		40.0	33-159			
Benzo (a) pyrene	0.14	0.02	0.06	"	0.200		70.0	10-177			
Indeno (1,2,3-cd) pyrene	0.07	0.02	0.17	"	0.200		35.0	10.7-171			
Dibenz (a,h) anthracene	0.08	0.04	0.16	"	0.200		40.0	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0700*			"	*0.200*		*35.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.190*			"	*0.200*		*95.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13031 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D13031-BSD1)											
Naphthalene	0.20	0.02	0.05	ug/L	0.200		100	10-145	0.00	40	
2-Methylnaphthalene	0.23	0.05	0.05	"	0.200		115	50-150	4.44	40	
Acenaphthylene	0.18	0.01	0.06	"	0.200		90.0	10-147	5.71	40	
Acenaphthene	0.20	0.02	0.05	"	0.200		100	10-143	14.0	40	
Fluorene	0.23	0.02	0.12	"	0.200		115	10-150	4.26	40	
Phenanthrene	0.25	0.02	0.06	"	0.200		125	10-151	11.3	40	
Anthracene	0.24	0.02	0.06	"	0.200		120	10-130	4.26	40	
Fluoranthene	0.23	0.03	0.06	"	0.200		115	10-155	8.33	40	
Pyrene	0.17	0.02	0.05	"	0.200		85.0	10-148	5.71	40	
Benzo (a) anthracene	0.17	0.02	0.06	"	0.200		85.0	38.5-141	5.71	40	
Chrysene	0.18	0.03	0.05	"	0.200		90.0	45.4-150	5.71	40	
Benzo (b) fluoranthene	0.18	0.03	0.05	"	0.200		90.0	33.6-160	10.5	40	
Benzo (k) fluoranthene	0.08	0.02	0.05	"	0.200		40.0	33-159	0.00	40	
Benzo (a) pyrene	0.14	0.02	0.06	"	0.200		70.0	10-177	0.00	40	
Indeno (1,2,3-cd) pyrene	0.09	0.02	0.17	"	0.200		45.0	10.7-171	25.0	40	
Dibenz (a,h) anthracene	0.10	0.04	0.16	"	0.200		50.0	16-164	22.2	40	
Surrogate: 2-Fluorobiphenyl	*0.0800*			"	*0.200*		*40.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0600*			"	*0.200*		*30.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.190*			"	*0.200*		*95.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13031 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D13031-DUP1)			**Source: 2204164-03**								
Naphthalene	0.05	0.02	0.05	ug/L		0.09			57.1	45	P3
2-Methylnaphthalene	ND	0.05	0.05	"		0.05			200	45	
Acenaphthylene	ND	0.01	0.06	"		ND				45	
Acenaphthene	0.10	0.02	0.05	"		0.04			85.7	45	P3
Fluorene	ND	0.02	0.12	"		ND				45	
Phenanthrene	0.08	0.02	0.06	"		0.12			40.0	45	
Anthracene	ND	0.02	0.06	"		ND				45	
Fluoranthene	0.06	0.03	0.06	"		0.07			15.4	45	
Pyrene	ND	0.02	0.05	"		ND				45	
Benzo (a) anthracene	ND	0.02	0.06	"		ND				45	
Chrysene	ND	0.03	0.05	"		ND				45	
Benzo (b) fluoranthene	ND	0.03	0.05	"		ND				45	
Benzo (k) fluoranthene	ND	0.02	0.05	"		ND				45	
Benzo (a) pyrene	ND	0.02	0.06	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"		ND				45	
Dibenz (a,h) anthracene	ND	0.04	0.16	"		ND				45	
Surrogate: 2-Fluorobiphenyl	*0.0504*			"	*0.202*		*25.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0504*			"	*0.202*		*25.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.141*			"	*0.202*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13031 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D13031-MS1)		**Source: 2204164-03**									
Naphthalene	0.21	0.02	0.05	ug/L	0.201	0.09	59.9	10-182			
2-Methylnaphthalene	0.26	0.05	0.05	"	0.201	0.05	105	0-200			
Acenaphthylene	0.19	0.01	0.06	"	0.201	ND	95.0	10-200			
Acenaphthene	0.22	0.02	0.05	"	0.201	0.04	89.9	10-200			
Fluorene	0.25	0.02	0.12	"	0.201	ND	125	10-200			
Phenanthrene	0.27	0.02	0.06	"	0.201	0.12	74.8	46.3-156			
Anthracene	0.26	0.02	0.06	"	0.201	ND	130	12.9-149			
Fluoranthene	0.26	0.03	0.06	"	0.201	0.07	94.9	10-200			
Pyrene	0.19	0.02	0.05	"	0.201	ND	95.0	10-191			
Benzo (a) anthracene	0.21	0.02	0.06	"	0.201	ND	105	19.3-191			
Chrysene	0.19	0.03	0.05	"	0.201	ND	95.0	16.5-166			
Benzo (b) fluoranthene	0.21	0.03	0.05	"	0.201	ND	105	17.3-163			
Benzo (k) fluoranthene	0.09	0.02	0.05	"	0.201	ND	45.0	23.7-152			
Benzo (a) pyrene	0.16	0.02	0.06	"	0.201	ND	80.0	10-200			
Indeno (1,2,3-cd) pyrene	0.08	0.02	0.17	"	0.201	ND	40.0	10-189			
Dibenz (a,h) anthracene	0.09	0.04	0.16	"	0.201	ND	45.0	51.1-147			M2
Surrogate: 2-Fluorobiphenyl	*0.0603*			"	*0.201*		*30.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.0704*			"	*0.201*		*35.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.191*			"	*0.201*		*95.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11032 - Default Prep GenChem											
Blank (2D11032-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (2D11032-BLK2)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
LCS (2D11032-BS1)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109			
Nitrate as N	2.16	0.020	0.500	"	2.26		95.8	81.7-111			
LCS (2D11032-BS2)											
Chloride	10.1	0.095	0.500	mg/L	10.0		101	86.3-109			
Nitrate as N	2.17	0.020	0.500	"	2.26		95.9	81.7-111			
LCS Dup (2D11032-BSD1)											
Chloride	10.5	0.095	0.500	mg/L	10.0		105	86.3-109	0.0190	20	
Nitrate as N	2.09	0.020	0.500	"	2.26		92.3	81.7-111	3.67	20	
LCS Dup (2D11032-BSD2)											
Chloride	10.1	0.095	0.500	mg/L	10.0		101	86.3-109	0.0197	20	
Nitrate as N	2.13	0.020	0.500	"	2.26		94.4	81.7-111	1.58	20	
Duplicate (2D11032-DUP1)			**Source: 2204164-02**								
Chloride	1450	47.3	250	mg/L		1430			1.74	20	
Nitrate as N	0.157	0.020	0.500	"		ND			200	20	
Matrix Spike (2D11032-MS1)			**Source: 2204059-12**								
Chloride	584	0.095	0.500	mg/L	12.0	590	NR	76.2-122			E-11, M5
Nitrate as N	4.02	0.020	0.500	"	2.71	2.11	70.4	60.8-130			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D11032 - Default Prep GenChem											
Matrix Spike (2D11032-MS2)			**Source: 2204164-03**								
Chloride	66.0	0.095	0.500	mg/L	12.0	54.9	92.1	76.2-122			
Nitrate as N	2.04	0.020	0.500	"	2.71	ND	75.2	60.8-130			
Matrix Spike Dup (2D11032-MSD1)			**Source: 2204059-12**								
Chloride	584	0.095	0.500	mg/L	12.0	590	NR	76.2-122	0.132	20	E-11, M5
Nitrate as N	3.43	0.020	0.500	"	2.71	2.11	48.8	60.8-130	15.8	20	M2
Batch 2D11047 - Default Prep GenChem											
Duplicate (2D11047-DUP1)			**Source: 2204093-06**								
pH	6.40			pH Units		6.47			1.09	5	HT-02
Duplicate (2D11047-DUP2)			**Source: 2204178-01**								
pH	6.44			pH Units		6.47			0.465	5	HT-02
Batch 2D11049 - Default Prep GenChem											
LCS (2D11049-BS1)											
Specific Conductance (EC)	1430			uS/cm	1410		101	90-110			
Duplicate (2D11049-DUP1)			**Source: 2204093-06**								
Specific Conductance (EC)	392			umhos/cm @25.0 C		392			0.00	10	
Batch 2D13050 - Default Prep GenChem											
Blank (2D13050-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13050 - Default Prep GenChem											
LCS (2D13050-BS1)											
Ammonia as N	5.03	0.03	0.21	mg/L	5.00		101	90-110			
LCS Dup (2D13050-BSD1)											
Ammonia as N	4.99	0.03	0.21	mg/L	5.00		99.8	90-110	0.798	10	
Duplicate (2D13050-DUP1)			**Source: 2204164-02**								
Ammonia as N	6.45	0.03	0.21	mg/L		6.34			1.72	10	
Matrix Spike (2D13050-MS1)			**Source: 2204175-01**								
Ammonia as N	5.22	0.03	0.21	mg/L	5.00	0.45	95.4	90-110			
Matrix Spike Dup (2D13050-MSD1)			**Source: 2204175-01**								
Ammonia as N	5.37	0.03	0.21	mg/L	5.00	0.45	98.4	90-110	2.83	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D12046 - EPA 200.2 DCN 1017 Rev 10											
Blank (2D12046-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (2D12046-BS1)											
Arsenic [He]	0.101	0.00021	0.00200	mg/L	0.100		101	85-115			
Chromium [He]	0.100	0.00043	0.00100	"	0.100		100	85-115			
Lead [He]	0.100	0.00017	0.00100	"	0.100		100	85-115			
Nickel [He]	0.102	0.00016	0.0400	"	0.100		102	85-115			
LCS Dup (2D12046-BSD1)											
Arsenic [He]	0.100	0.00021	0.00200	mg/L	0.100		100	85-115	0.307	20	
Chromium [He]	0.101	0.00043	0.00100	"	0.100		101	85-115	0.573	20	
Lead [He]	0.100	0.00017	0.00100	"	0.100		99.7	85-115	0.751	20	
Nickel [He]	0.101	0.00016	0.0400	"	0.100		101	85-115	0.531	20	
Matrix Spike (2D12046-MS1)			**Source: 2204164-03**								
Arsenic [He]	0.099	0.00021	0.00200	mg/L	0.100	0.0002	98.8	70-130			
Chromium [He]	0.101	0.00215	0.00500	"	0.100	ND	101	70-130			
Lead [He]	0.100	0.00017	0.00100	"	0.100	0.0003	99.5	70-130			
Nickel [He]	0.093	0.00016	0.0400	"	0.100	0.0005	92.7	70-130			
Matrix Spike Dup (2D12046-MSD1)			**Source: 2204164-03**								
Arsenic [He]	0.099	0.00021	0.00200	mg/L	0.100	0.0002	98.6	70-130	0.187	20	
Chromium [He]	0.099	0.00215	0.00500	"	0.100	ND	99.4	70-130	1.53	20	
Lead [He]	0.099	0.00017	0.00100	"	0.100	0.0003	98.4	70-130	1.05	20	
Nickel [He]	0.092	0.00016	0.0400	"	0.100	0.0005	91.9	70-130	0.878	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13029 - EPA 3510C DCN 4000 Rev 12											
Blank (2D13029-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*2.40*			"	*10.0*		*24.0*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*0.990*			"	*5.00*		*19.8*	*21.3-100*			*SR16*
Surrogate: 2-Fluorophenol	*1.72*			"	*10.0*		*17.2*	*0-200*			
Surrogate: Nitrobenzene-d5	*0.970*			"	*5.00*		*19.4*	*18.4-100*			
Surrogate: Phenol-d5	*0.910*			"	*10.0*		*9.10*	*10-126*			*SR16*
Surrogate: Terphenyl-dl4	*0.980*			"	*5.00*		*19.6*	*28.8-100*			*SR16*

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13029 - EPA 3510C DCN 4000 Rev 12											
LCS (2D13029-BS1)											
Acenaphthene	13.7	0.16	1.08	ug/L	20.0		68.7	21.2-115			
Acenaphthylene	11.8	0.11	1.16	"	20.0		59.0	17.4-116			
Anthracene	14.9	0.13	1.29	"	20.0		74.5	19.4-120			
Benzo (a) anthracene	14.4	0.18	0.92	"	20.0		71.9	31.6-117			
Benzo (b) fluoranthene	14.6	0.18	1.43	"	20.0		73.2	24.6-128			
Benzo (k) fluoranthene	16.6	0.17	0.85	"	20.0		82.9	19.5-128			
Benzo (a) pyrene	15.2	0.20	1.25	"	20.0		76.2	34.2-116			
Bis(2-ethylhexyl)phthalate	16.2	0.37	1.08	"	20.0		81.0	42.2-107			
Carbazole	14.8	2.62	7.86	"	20.0		74.1	30.1-145			
4-Chloro-3-methylphenol	15.3	0.27	1.65	"	20.0		76.7	43.1-105			
Chrysene	13.0	0.15	0.89	"	20.0		65.0	42.1-106			
Dibenz (a,h) anthracene	17.1	0.25	1.78	"	20.0		85.7	23.1-136			
Dibenzofuran	13.3	0.40	1.20	"	20.0		66.5	25-127			
2,4-Dimethylphenol	18.6	0.19	1.05	"	20.0		92.8	31.6-95.8			
2,4-Dinitrophenol	17.3	1.29	4.32	"	20.0		86.7	22.1-108			
Di-n-octyl phthalate	15.5	0.29	1.70	"	20.0		77.6	42.9-108			
Fluoranthene	15.1	0.20	1.50	"	20.0		75.6	47.7-104			
Fluorene	12.9	0.16	1.19	"	20.0		64.7	49.1-98.2			
Indeno (1,2,3-cd) pyrene	16.2	0.25	1.63	"	20.0		81.1	27.8-136			
2-Methylnaphthalene	12.0	0.05	1.28	"	20.0		59.8	22.3-108			
2-Methylphenol	12.1	0.41	1.24	"	20.0		60.3	15.8-123			
3 & 4-Methylphenol	23.7	1.13	3.39	"	40.0		59.4	11.1-130			
Naphthalene	11.9	0.15	0.99	"	20.0		59.4	22.1-109			
Pentachlorophenol	14.7	0.06	1.00	"	20.0		73.5	28.8-111			
Phenanthrene	14.4	0.15	1.20	"	20.0		72.2	22.1-115			
Pyrene	13.9	0.22	0.58	"	20.0		69.6	19-108			
2,4,6-Trichlorophenol	16.2	0.44	1.32	"	20.0		80.9	44.4-104			
1-Methylnaphthalene	12.5	0.05	1.28	"	20.0		62.5	23.7-97.4			
Surrogate: 2,4,6-Tribromophenol	*7.50*			*"*	*10.0*		*75.0*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.30*			*"*	*5.00*		*66.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*4.02*			*"*	*10.0*		*40.2*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.72*			*"*	*5.00*		*74.4*	*18.4-100*			
Surrogate: Phenol-d5	*2.56*			*"*	*10.0*		*25.6*	*10-126*			
Surrogate: Terphenyl-dl4	*2.46*			*"*	*5.00*		*49.2*	*28.8-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13029 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2D13029-BSD1)											
Acenaphthene	12.5	0.16	1.08	ug/L	20.0		62.6	21.2-115	9.29	48	
Acenaphthylene	10.6	0.11	1.16	"	20.0		52.8	17.4-116	11.1	74	
Anthracene	13.4	0.13	1.29	"	20.0		67.2	19.4-120	10.3	66	
Benzo (a) anthracene	11.8	0.18	0.92	"	20.0		58.9	31.6-117	19.8	53	
Benzo (b) fluoranthene	12.9	0.18	1.43	"	20.0		64.7	24.6-128	12.3	71	
Benzo (k) fluoranthene	14.6	0.17	0.85	"	20.0		72.8	19.5-128	13.0	63	
Benzo (a) pyrene	13.3	0.20	1.25	"	20.0		66.7	34.2-116	13.2	72	
Bis(2-ethylhexyl)phthalate	14.9	0.37	1.08	"	20.0		74.7	42.2-107	8.09	82	
Carbazole	14.0	2.62	7.86	"	20.0		69.9	30.1-145	5.90	40	
4-Chloro-3-methylphenol	14.5	0.27	1.65	"	20.0		72.3	43.1-105	5.91	73	
Chrysene	11.0	0.15	0.89	"	20.0		55.2	42.1-106	16.4	87	
Dibenz (a,h) anthracene	15.0	0.25	1.78	"	20.0		74.8	23.1-136	13.6	126	
Dibenzofuran	12.2	0.40	1.20	"	20.0		60.9	25-127	8.87	40	
2,4-Dimethylphenol	17.7	0.19	1.05	"	20.0		88.4	31.6-95.8	4.86	58	
2,4-Dinitrophenol	17.4	1.29	4.32	"	20.0		86.9	22.1-108	0.288	132	
Di-n-octyl phthalate	14.3	0.29	1.70	"	20.0		71.5	42.9-108	8.12	69	
Fluoranthene	13.7	0.20	1.50	"	20.0		68.5	47.7-104	9.85	66	
Fluorene	11.3	0.16	1.19	"	20.0		56.7	49.1-98.2	13.1	38	
Indeno (1,2,3-cd) pyrene	14.0	0.25	1.63	"	20.0		70.2	27.8-136	14.3	99	
2-Methylnaphthalene	10.6	0.05	1.28	"	20.0		52.8	22.3-108	12.4	40	
2-Methylphenol	11.1	0.41	1.24	"	20.0		55.7	15.8-123	7.85	40	
3 & 4-Methylphenol	22.2	1.13	3.39	"	40.0		55.6	11.1-130	6.61	40	
Naphthalene	10.7	0.15	0.99	"	20.0		53.6	22.1-109	10.2	65	
Pentachlorophenol	14.5	0.06	1.00	"	20.0		72.4	28.8-111	1.44	86	
Phenanthrene	13.2	0.15	1.20	"	20.0		66.1	22.1-115	8.82	39	
Pyrene	11.6	0.22	0.58	"	20.0		58.0	19-108	18.3	49	
2,4,6-Trichlorophenol	14.2	0.44	1.32	"	20.0		71.1	44.4-104	13.0	58	
1-Methylnaphthalene	11.1	0.05	1.28	"	20.0		55.6	23.7-97.4	11.7	40	
Surrogate: 2,4,6-Tribromophenol	*6.84*			"	*10.0*		*68.4*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.90*			"	*5.00*		*58.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*3.60*			"	*10.0*		*36.0*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.25*			"	*5.00*		*65.0*	*18.4-100*			
Surrogate: Phenol-d5	*2.34*			"	*10.0*		*23.4*	*10-126*			
Surrogate: Terphenyl-dl4	*2.20*			"	*5.00*		*44.0*	*28.8-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13029 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2D13029-DUP1)			**Source: 2204164-01**								
Acenaphthene	108	0.18	1.16	ug/L		77.4			33.4	45	
Acenaphthylene	7.37	0.12	1.25	"		3.68			66.7	45	P3
Anthracene	1.73	0.14	1.39	"		0.88			65.4	45	P3
Benzo (a) anthracene	8.83	0.20	0.99	"		4.96			56.2	45	P3
Benzo (b) fluoranthene	8.67	0.20	1.54	"		4.20			69.5	45	P3
Benzo (k) fluoranthene	2.65	0.18	0.91	"		1.06			85.4	45	P3
Benzo (a) pyrene	5.12	0.22	1.34	"		2.66			63.2	45	P3
Bis(2-ethylhexyl)phthalate	4.02	0.39	1.16	"		2.22			57.5	45	P3
Carbazole	ND	2.81	8.44	"		ND				45	
4-Chloro-3-methylphenol	ND	0.29	1.77	"		ND				45	
Chrysene	11.6	0.17	0.96	"		5.49			71.7	45	P3
Dibenz (a,h) anthracene	ND	0.27	1.91	"		ND				45	
Dibenzofuran	1.92	0.43	1.29	"		4.99			88.7	45	P3
2,4-Dimethylphenol	ND	0.20	1.13	"		ND				45	
2,4-Dinitrophenol	ND	1.39	4.64	"		ND				45	
Di-n-octyl phthalate	ND	0.31	1.83	"		ND				45	
Fluoranthene	45.9	0.22	1.61	"		28.9			45.6	45	P3
Fluorene	2.08	0.17	1.28	"		3.16			41.1	45	
Indeno (1,2,3-cd) pyrene	ND	0.26	1.75	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.37	"		1.76			200	45	
2-Methylphenol	ND	0.44	1.33	"		ND				45	
3 & 4-Methylphenol	ND	1.21	3.64	"		ND				45	
Naphthalene	ND	0.17	1.06	"		ND				45	
Pentachlorophenol	ND	0.07	1.07	"		ND				45	
Phenanthrene	3.91	0.16	1.29	"		1.73			77.2	45	P3
Pyrene	17.0	0.24	0.62	"		19.0			10.9	45	
2,4,6-Trichlorophenol	ND	0.47	1.42	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.37	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*8.39*			"	*10.7*		*78.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.05*			"	*5.37*		*56.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*5.54*			"	*10.7*		*51.6*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.02*			"	*5.37*		*56.2*	*18.4-100*			
Surrogate: Phenol-d5	*3.86*			"	*10.7*		*35.9*	*10-126*			
Surrogate: Terphenyl-dl4	*2.16*			"	*5.37*		*40.2*	*28.8-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D13029 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2D13029-MS1)		**Source: 2204164-01**									
Acenaphthene	144	0.17	1.12	ug/L	20.8	77.4	319	36.4-100			M5
Acenaphthylene	19.8	0.12	1.20	"	20.8	3.68	77.4	35.5-100			
Anthracene	18.3	0.13	1.34	"	20.8	0.88	84.0	39.6-100			
Benzo (a) anthracene	21.5	0.19	0.96	"	20.8	4.96	79.5	37.9-100			
Benzo (b) fluoranthene	18.9	0.19	1.48	"	20.8	4.20	70.9	34.4-105			
Benzo (k) fluoranthene	18.5	0.18	0.88	"	20.8	1.06	83.9	32.7-100			
Benzo (a) pyrene	19.7	0.21	1.30	"	20.8	2.66	81.9	40.6-100			
Bis(2-ethylhexyl)phthalate	19.4	0.38	1.12	"	20.8	2.22	82.6	8-158			
Carbazole	17.6	2.72	8.16	"	20.8	ND	84.9	15.3-151			
4-Chloro-3-methylphenol	17.3	0.28	1.71	"	20.8	ND	83.2	22-147			
Chrysene	24.3	0.16	0.92	"	20.8	5.49	90.4	34.8-100			
Dibenz (a,h) anthracene	16.7	0.26	1.85	"	20.8	ND	80.6	10-176			
Dibenzofuran	30.3	0.41	1.25	"	20.8	4.99	122	38.3-130			
2,4-Dimethylphenol	14.7	0.20	1.09	"	20.8	ND	70.8	32-120			
2,4-Dinitrophenol	11.5	1.34	4.49	"	20.8	ND	55.4	5-191			
Di-n-octyl phthalate	15.4	0.30	1.77	"	20.8	ND	74.1	4-146			
Fluoranthene	66.0	0.21	1.56	"	20.8	28.9	179	44.8-100			M5
Fluorene	24.9	0.17	1.24	"	20.8	3.16	105	40.1-130			
Indeno (1,2,3-cd) pyrene	16.4	0.26	1.69	"	20.8	ND	79.1	10-173			
2-Methylnaphthalene	12.4	0.05	1.33	"	20.8	1.76	51.1	16.6-107			
2-Methylphenol	13.4	0.43	1.29	"	20.8	ND	64.7	7.21-120			
3 & 4-Methylphenol	26.1	1.17	3.52	"	41.5	ND	62.9	8-134			
Naphthalene	12.5	0.16	1.03	"	20.8	ND	60.2	29.1-100			
Pentachlorophenol	17.9	0.07	1.04	"	20.8	ND	86.0	14-176			
Phenanthrene	18.6	0.15	1.25	"	20.8	1.73	81.2	40.7-100			
Pyrene	31.9	0.23	0.60	"	20.8	19.0	62.4	40.6-100			
2,4,6-Trichlorophenol	17.7	0.46	1.37	"	20.8	ND	85.4	37-144			
1-Methylnaphthalene	20.9	0.05	1.33	"	20.8	ND	101	18.5-130			
Surrogate: 2,4,6-Tribromophenol	*8.41*			"	*10.4*		*81.0*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.22*			"	*5.19*		*62.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*4.57*			"	*10.4*		*44.0*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.94*			"	*5.19*		*75.8*	*18.4-100*			
Surrogate: Phenol-d5	*2.99*			"	*10.4*		*28.8*	*10-126*			
Surrogate: Terphenyl-dl4	*2.29*			"	*5.19*		*44.2*	*28.8-100*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D19029 - EPA 5030B											
Blank (2D19029-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*49.1*			"	*50.0*		*98.2*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.3*			"	*50.0*		*107*	*87.4-116*			
Surrogate: Toluene-d8	*40.2*			"	*50.0*		*80.4*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*61.3*			"	*50.0*		*123*	*80.4-130*			
LCS (2D19029-BS1)											
Benzene	23.2	0.258	5.00	ug/L	20.0		116	64.2-144			
Ethylbenzene	21.0	0.190	5.00	"	20.0		105	64.9-150			
Surrogate: Dibromofluoromethane	*50.5*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.9*			"	*50.0*		*106*	*87.4-116*			
Surrogate: Toluene-d8	*40.4*			"	*50.0*		*80.7*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*60.8*			"	*50.0*		*122*	*80.4-130*			
LCS Dup (2D19029-BSD1)											
Benzene	23.1	0.258	5.00	ug/L	20.0		115	64.2-144	0.735	30	
Ethylbenzene	21.1	0.190	5.00	"	20.0		105	64.9-150	0.333	30	
Surrogate: Dibromofluoromethane	*50.7*			"	*50.0*		*101*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.1*			"	*50.0*		*108*	*87.4-116*			
Surrogate: Toluene-d8	*41.3*			"	*50.0*		*82.6*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*61.8*			"	*50.0*		*124*	*80.4-130*			
Matrix Spike (2D19029-MS1)		**Source: 2204093-04**									
Benzene	27.6	0.258	5.00	ug/L	20.0	ND	138	70-149			
Ethylbenzene	29.7	0.190	5.00	"	20.0	8.71	105	70.2-150			
Surrogate: Dibromofluoromethane	*51.3*			"	*50.0*		*103*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.6*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*39.6*			"	*50.0*		*79.1*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*61.9*			"	*50.0*		*124*	*80.4-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2D19029 - EPA 5030B											
Matrix Spike Dup (2D19029-MSD1)			**Source: 2204093-04**								
Benzene	25.6	0.258	5.00	ug/L	20.0	ND	128	70-149	7.48	35	
Ethylbenzene	27.9	0.190	5.00	"	20.0	8.71	96.0	70.2-150	6.18	35	
Surrogate: Dibromofluoromethane	*51.6*			*"*	*50.0*		*103*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.8*			*"*	*50.0*		*106*	*87.4-116*			
Surrogate: Toluene-d8	*40.4*			*"*	*50.0*		*80.7*	*70-118*			
Surrogate: 4-Bromofluorobenzene	*60.8*			*"*	*50.0*		*122*	*80.4-130*			

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 1st Quarter Project Manager: Ethan Allen	**Reported:** 12/20/2022 12:07

Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 1st Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:07

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the **minimum reporting limit (MRL)**
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 1st Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:07

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Howard Mitch Spicer	HMS
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Stella S Kleist	SSK
Steven Tobias	SWT
Teresa Meins	TKM
Tina Tomek	TPT

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-0423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 22041164

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

- x Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 1ST QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
E-1	4-7-22/16:30	W	9	G	X	X	X	X	X	X	X
B-108A	4-7-22/17:10	W	9	C	X	X	X	X	X	X	X
B-101	4-7-22/17:40	W	9	G	X	X	X	X	X	X	X
TBV# ~~6983~~ 6903	4-7-22/16:30	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: Y / N Thermometer# 3 Cooler # client **Receipt Temp Corrected (°C)** 0.9°C

Date & Time _____ By: _____ Sample____ Blank X Cooler____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	4-8-22	8:20
Received by	Sarah Tomek	Sarah Tomek	MM	4/8/22	0820
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2209286

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 09/20/2022 08:16. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-2	2209286-01	Water	09/19/2022 12:20	*Jeff Gonsoulin*	09/20/2022 08:16
Mobile/RW-1	2209286-02	Water	09/19/2022 13:10	*Jeff Gonsoulin*	09/20/2022 08:16
Mobile/RC-3A	2209286-03	Water	09/19/2022 14:10	*Jeff Gonsoulin*	09/20/2022 08:16
Mobile/RC-2A	2209286-04	Water	09/19/2022 14:40	*Jeff Gonsoulin*	09/20/2022 08:16
Mobile/RW-4	2209286-05	Water	09/19/2022 15:45	*Jeff Gonsoulin*	09/20/2022 08:16
Trip Blank TBV#7028	2209286-06	Water	09/19/2022 12:20	*Micro Methods*	09/20/2022 08:16

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Sample Receipt Conditions

Date/Time Received: 9/20/2022 8:16:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 9/20/2022 8:48:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:53

Cooler ID: client cooler #2 **Receipt Temperature:** -0.5 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:53

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:53

Chloride-ASTM D 512-12

Qualifiers:

L1 LCS and/or LCSD Recovery Limit exceeded.

Chloride

2I30012-BSD1

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol, 2-Methylnaphthalene, 3 & 4-Methylphenol, Benzo (k) fluoranthene, Bis(2-ethylhexyl)phthalate, Di-n-octyl phthalate

2209286-01[Mobile/RW-2], 2209286-02[Mobile/RW-1], 2209286-05[Mobile/RW-4], 2I22006-BLK1, 2I22006-DUP1, 2I21035-BLK1, 2209286-04[Mobile/RC-2A], 2I23001-DUP1

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol, 2-Methylnaphthalene, Phenanthrene

2I22006-BS1, 2I22006-BSD1, 2I22006-MS1, 2I21035-BS1, 2I21035-BSD1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2-Methylnaphthalene, 2-Methylphenol, Anthracene, Benzo (a) anthracene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Carbazole, Chrysene, Dibenzofuran, Fluoranthene, Indeno (1,2,3-cd) pyrene, Naphthalene, Phenanthrene, Pyrene

2209286-04[Mobile/RC-2A], 2209286-01[Mobile/RW-2], 2I22006-DUP1, 2209286-03[Mobile/RC-3A], 2I21035-DUP1

L1 LCS and/or LCSD Recovery Limit exceeded.

Di-n-octyl phthalate, Pentachlorophenol

2I22006-BSD1, 2I22006-BS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Acenaphthene, Fluorene

2I22006-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Phenanthrene, Pyrene

2I21035-DUP1, 2I22006-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:53

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl, Nitrobenzene-d5, Terphenyl-dl4

2209286-02[Mobile/RW-1], 2I21035-DUP1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5

2I23001-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5, Terphenyl-dl4

2209286-05[Mobile/RW-4], 2I21035-BLK1, 2209286-02[Mobile/RW-1]

SR17 Surrogate CCV check above acceptance limits. Actual surrogate recovery on the CCV is within acceptance limits.

Terphenyl-dl4

2I23001-DUP1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2209286-01[Mobile/RW-2], 2209286-02[Mobile/RW-1], 2209286-03[Mobile/RC-3A], 2209286-04[Mobile/RC-2A], 2209286-05[Mobile/ RW-4], 2I27028-DUP1, 2I27028-DUP2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RW-2

2209286-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.60**	0.03	0.21	mg/L	1.0	2I22008	CRG	09/22/2022 11:06	09/23/2022 09:54	Lachat 10-107-06-1-I	
Chloride	**38.0**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**6.02**			pH Units	"	2I27028	CRG	09/27/2022 08:54	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Specific Conductance (EC)	**365**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00258**	0.00049	0.00200	mg/L	1.0	2I22009	GWG	09/22/2022 09:45	09/23/2022 14:34	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00434**	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**490**	19.0	125	ug/L	100.0	2I22006	CRLV	09/22/2022 08:26	09/28/2022 12:22	EPA 8270D	
Acenaphthylene	**4.89**	0.13	1.34	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
Anthracene	**62.8**	1.46	14.9	"	10.0	"	CRLV	"	09/28/2022 14:15	"	
Benzo (a) anthracene	**31.4**	2.13	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**20.2**	0.21	1.65	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
Benzo (k) fluoranthene	**9.48**	1.98	5.78	"	10.0	"	CRLV	"	09/28/2022 14:15	"	
Benzo (a) pyrene	**9.99**	0.23	1.45	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
Bis(2-ethylhexyl)phthalate	ND	0.42	1.25	"	"	"	CRLV	"	"	"	
Carbazole	**108**	30.3	90.9	"	10.0	"	CRLV	"	09/28/2022 14:15	"	
4-Chloro-3-methylphenol	ND	0.32	1.91	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
Chrysene	**28.1**	1.78	10.3	"	10.0	"	CRLV	"	09/28/2022 14:15	"	
Dibenz (a,h) anthracene	**0.91**	0.29	0.81	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
Dibenzofuran	**292**	46.1	139	"	100.0	"	CRLV	"	09/28/2022 12:22	"	
2,4-Dimethylphenol	**5.48**	0.22	1.21	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
2,4-Dinitrophenol	ND	1.49	4.99	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.33	1.97	"	"	"	CRLV	"	"	"	
Fluoranthene	**399**	23.4	173	"	100.0	"	CRLV	"	09/28/2022 12:22	"	
Fluorene	**332**	18.5	138	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**2.29**	0.28	1.88	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
2-Methylnaphthalene	**165**	5.78	148	"	100.0	"	CRLV	"	09/28/2022 12:22	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RW-2

2209286-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
2-Methylphenol	**0.69**	0.48	1.43	"	1.0	2I22006	CRLV	09/22/2022 08:26	09/27/2022 04:13	"	J
3 & 4-Methylphenol	ND	1.31	3.92	"	"	"	CRLV	"	"	"	
Naphthalene	**1220**	17.8	114	"	100.0	"	CRLV	"	09/28/2022 12:22	"	
Pentachlorophenol	ND	0.07	1.16	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
Phenanthrene	**732**	16.9	139	"	100.0	"	CRLV	"	09/28/2022 12:22	"	
Pyrene	**228**	25.4	67.1	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.51	1.53	"	1.0	"	CRLV	"	09/27/2022 04:13	"	
1-Methylnaphthalene	**172**	5.78	148	"	100.0	"	CRLV	"	09/28/2022 12:22	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	10.8	*93.4 %*	*0-200*	"	CRLV	"	*09/27/2022 04:13*	"	
2-Fluorobiphenyl	3.73	*64.6 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	0.139	*1.20 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	4.73	*81.8 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	4.02	*34.8 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.47	*60.0 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 18:48	EPA 8260D	
Ethylbenzene	**5.14**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	46.8	*93.6 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.0	*95.9 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	47.7	*95.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.5	*101 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RW-1

2209286-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	ND	0.02	0.05	ug/L	1.0	2I21035	CRLV	09/21/2022 10:34	09/27/2022 14:30	EPA 8270D	
2-Methylnaphthalene	**0.80**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.06**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.00	*%*	*11.7-131*	"	CRLV	"	"	"	*SR01*
Nitrobenzene-d5	0.00	*%*	*19.6-130*	"	CRLV	"	"	"	*SR01*
Terphenyl-dl4	0.00	*%*	*11.3-166*	"	CRLV	"	"	"	*SR01*

Classical Chemistry Parameters											
Ammonia as N	**1.91**	0.03	0.21	mg/L	1.0	2I22008	CRG	09/22/2022 11:06	09/23/2022 09:55	Lachat 10-107-06-1-I	
Chloride	**32.9**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**6.75**			pH Units	"	2I27028	CRG	09/27/2022 08:58	09/27/2022 09:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**401**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Nitrate as N	**3.60**	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00258**	0.00049	0.00200	mg/L	1.0	2I22009	GWG	09/22/2022 09:45	09/23/2022 14:40	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00497**	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00266**	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RW-1

2209286-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**11.2**	0.17	1.11	ug/L	1.0	2I22006	CRLV	09/22/2022 08:26	09/27/2022 02:56	EPA 8270D	
Benzo (a) anthracene	**1.09**	0.19	0.95	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**2.04**	0.19	1.47	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.11	"	"	"	CRLV	"	"	"	
Carbazole	ND	2.70	8.10	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.70	"	"	"	CRLV	"	"	"	
Chrysene	**1.62**	0.16	0.92	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.24	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.08	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.33	4.45	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.30	1.75	"	"	"	CRLV	"	"	"	
Fluoranthene	**6.27**	0.21	1.55	"	"	"	CRLV	"	"	"	
Fluorene	**6.80**	0.16	1.23	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.16	3.49	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.03	"	"	"	CRLV	"	"	"	
Phenanthrene	**1.95**	0.15	1.24	"	"	"	CRLV	"	"	"	
Pyrene	**3.96**	0.23	0.60	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	ND	0.05	1.32	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.23	*60.4 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.96	*38.0 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	0.711	*6.90 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.02	*39.2 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.70	*16.5 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	1.26	*24.4 %*	*28.8-100*	"	CRLV	"	"	"	*SR06*

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 19:12	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.7	*91.5 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.6	*93.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.7	*97.4 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.3	*101 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RC-3A

2209286-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.76**	0.03	0.21	mg/L	1.0	2I22008	CRG	09/22/2022 11:06	09/23/2022 09:56	Lachat 10-107-06-1-I	
Chloride	**85.0**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**6.52**			pH Units	"	2I27028	CRG	09/27/2022 09:05	09/27/2022 09:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**486**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I22009	GWG	09/22/2022 09:45	09/23/2022 14:47	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RC-3A

2209286-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**36.8**	1.21	10.7	ug/L	1.0	2I23001	CRLV	09/23/2022 08:02	09/27/2022 17:37	EPA 8270D	
Acenaphthylene	ND	1.14	10.7	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.06	10.7	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.93	10.7	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.10	10.7	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.08	10.7	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.04	10.7	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.22	10.7	"	"	"	CRLV	"	"	"	
Carbazole	**3.98**	0.96	10.7	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	1.11	10.7	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.99	10.7	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.72	10.7	"	"	"	CRLV	"	"	"	
Dibenzofuran	**2.52**	1.11	10.7	"	"	"	CRLV	"	"	"	J
2,4-Dimethylphenol	ND	0.90	10.7	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.26	10.7	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.44	10.7	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	1.00	10.7	"	"	"	CRLV	"	"	"	
Fluorene	**14.8**	1.08	10.7	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.95	10.7	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.20	10.7	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.94	10.7	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.93	10.7	"	"	"	CRLV	"	"	"	
Naphthalene	**8.95**	1.17	10.7	"	"	"	CRLV	"	"	"	J
Pentachlorophenol	ND	2.91	10.7	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.99	10.7	"	"	"	CRLV	"	"	"	
Pyrene	**1.83**	1.17	10.7	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.76	10.7	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	75.7	*70.8 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	33.5	*62.7 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	34.2	*32.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	26.8	*50.1 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	29.4	*27.5 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	23.4	*43.8 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 19:36	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RC-3A

2209286-03 (Water)

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Surrogate	*Result*		*% Rec*	*Rec Limits*		*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.9		*89.7 %*	*83.9-122*		*2I28030*	BSF	*09/27/2022 08:00*	"	"	
1,2-Dichloroethane-d4	46.7		*93.3 %*	*87.4-116*		"	BSF	"	"	"	
Toluene-d8	48.3		*96.7 %*	*81.4-118*		"	BSF	"	"	"	
4-Bromofluorobenzene	51.0		*102 %*	*80.4-119*		"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RC-2A

2209286-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.65**	0.03	0.21	mg/L	1.0	2I22008	CRG	09/22/2022 11:06	09/23/2022 09:57	Lachat 10-107-06-1-I	
Chloride	**54.0**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**6.62**			pH Units	"	2I27028	CRG	09/27/2022 09:08	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Specific Conductance (EC)	**373**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I22009	GWG	09/22/2022 09:45	09/23/2022 14:53	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RC-2A

2209286-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**148**	1.20	10.6	ug/L	1.0	2I23001	CRLV	09/23/2022 08:02	10/03/2022 23:05	EPA 8270D	
Acenaphthylene	ND	1.13	10.6	"	"	"	CRLV	"	"	"	
Anthracene	**9.10**	1.05	10.6	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.92	10.6	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.09	10.6	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**1.64**	1.07	10.6	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	ND	1.03	10.6	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.21	10.6	"	"	"	CRLV	"	"	"	CC-01
Carbazole	**522**	9.49	106	"	10.0	"	CRLV	"	10/05/2022 14:36	"	
4-Chloro-3-methylphenol	ND	1.10	10.6	"	1.0	"	CRLV	"	10/03/2022 23:05	"	
Chrysene	ND	0.98	10.6	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.71	10.6	"	"	"	CRLV	"	"	"	
Dibenzofuran	**49.8**	1.10	10.6	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.89	10.6	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.23	10.6	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.43	10.6	"	"	"	CRLV	"	"	"	
Fluoranthene	**8.24**	0.99	10.6	"	"	"	CRLV	"	"	"	J
Fluorene	**76.8**	1.07	10.6	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.94	10.6	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	**4.98**	1.19	10.6	"	"	"	CRLV	"	"	"	J
2-Methylphenol	ND	0.93	10.6	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.92	10.6	"	"	"	CRLV	"	"	"	CC-01
Naphthalene	**650**	11.5	106	"	10.0	"	CRLV	"	10/05/2022 14:36	"	
Pentachlorophenol	ND	2.88	10.6	"	1.0	"	CRLV	"	10/03/2022 23:05	"	
Phenanthrene	**82.4**	0.98	10.6	"	"	"	CRLV	"	"	"	
Pyrene	**4.19**	1.15	10.6	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.73	10.6	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	42.7	*40.4 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	20.9	*39.5 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	26.5	*25.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	23.9	*45.2 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	22.8	*21.6 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	21.6	*40.8 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RC-2A

2209286-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 19:59	EPA 8260D	
Ethylbenzene	**10.2**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.6	*89.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	46.3	*92.7 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.1	*96.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.9	*102 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RW-4

2209286-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Benzo (a) anthracene	ND	0.03	0.06	ug/L	1.0	2I21035	CRLV	09/21/2022 10:34	09/27/2022 13:07	EPA 8270D	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.16	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0722	*35.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0309	*15.0 %*	*19.6-130*	"	CRLV	"	"	"	*SR06*
Terphenyl-dl4	0.124	*60.0 %*	*11.3-166*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.46**	0.03	0.21	mg/L	1.0	2I22008	CRG	09/22/2022 11:06	09/23/2022 09:58	Lachat 10-107-06-1-I	
Chloride	**60.0**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**7.10**			pH Units	"	2I27028	CRG	09/27/2022 09:11	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Specific Conductance (EC)	**449**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I22009	GWG	09/22/2022 09:45	09/23/2022 14:59	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Mobile/RW-4

2209286-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**212**	17.0	112	ug/L	100.0	2I22006	CRLV	09/22/2022 08:26	09/28/2022 13:00	EPA 8270D	
Acenaphthylene	**1.80**	0.12	1.20	"	1.0	"	CRLV	"	09/27/2022 03:35	"	
Anthracene	**2.19**	0.13	1.34	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.12	"	"	"	CRLV	"	"	"	
Carbazole	**246**	27.2	81.5	"	10.0	"	CRLV	"	09/28/2022 14:52	"	
4-Chloro-3-methylphenol	ND	0.28	1.71	"	1.0	"	CRLV	"	09/27/2022 03:35	"	
Dibenzofuran	**46.1**	4.13	12.4	"	10.0	"	CRLV	"	09/28/2022 14:52	"	
2,4-Dimethylphenol	**5.56**	0.20	1.09	"	1.0	"	CRLV	"	09/27/2022 03:35	"	
2,4-Dinitrophenol	ND	1.34	4.48	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.30	1.76	"	"	"	CRLV	"	"	"	
Fluoranthene	**1.60**	0.21	1.55	"	"	"	CRLV	"	"	"	
Fluorene	**57.3**	1.66	12.3	"	10.0	"	CRLV	"	09/28/2022 14:52	"	
2-Methylnaphthalene	**42.8**	0.52	13.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	1.0	"	CRLV	"	09/27/2022 03:35	"	
3 & 4-Methylphenol	ND	1.17	3.51	"	"	"	CRLV	"	"	"	
Naphthalene	**479**	1.60	10.3	"	10.0	"	CRLV	"	09/28/2022 14:52	"	
Pentachlorophenol	ND	0.07	1.04	"	1.0	"	CRLV	"	09/27/2022 03:35	"	
Phenanthrene	**38.7**	1.51	12.4	"	10.0	"	CRLV	"	09/28/2022 14:52	"	
Pyrene	**0.64**	0.23	0.60	"	1.0	"	CRLV	"	09/27/2022 03:35	"	
2,4,6-Trichlorophenol	ND	0.46	1.37	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	**156**	5.18	133	"	100.0	"	CRLV	"	09/28/2022 13:00	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	9.70	*93.6 %*	*0-200*	"	CRLV	"	*09/27/2022 03:35*	"	
2-Fluorobiphenyl	2.82	*54.4 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	0.145	*1.40 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.25	*62.8 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.52	*14.7 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.55	*49.2 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 20:23	EPA 8260D	
Ethylbenzene	**17.9**	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:53

Mobile/RW-4

2209286-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.1	*90.2 %*	*83.9-122*	*2I28030*	BSF	*09/27/2022 08:00*	"	"	
1,2-Dichloroethane-d4	46.6	*93.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.2	*96.4 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.6	*105 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Trip Blank TBV#7028

2209286-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 21:33	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	43.6	*87.3 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.8	*91.5 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	47.6	*95.2 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.1	*102 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
Blank (2I21035-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							CC-01
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0600*			"	*0.200*		*30.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.230*			"	*0.200*		*115*	*19.6-113*			*SR06*
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
LCS (2I21035-BS1)											
Naphthalene	0.15	0.02	0.05	ug/L	0.400		37.5	10-145			
2-Methylnaphthalene	0.25	0.05	0.05	"	0.400		62.5	50-150			CC-03
Acenaphthylene	0.14	0.01	0.06	"	0.400		35.0	10-147			
Acenaphthene	0.17	0.02	0.05	"	0.400		42.5	10-143			
Fluorene	0.17	0.02	0.12	"	0.400		42.5	10-150			
Phenanthrene	0.22	0.02	0.06	"	0.400		55.0	10-151			CC-03
Anthracene	0.16	0.02	0.06	"	0.400		40.0	10-130			
Fluoranthene	0.15	0.03	0.06	"	0.400		37.5	10-155			
Pyrene	0.10	0.02	0.05	"	0.400		25.0	10-148			
Benzo (a) anthracene	0.08	0.02	0.06	"	0.400		20.0	10-141			
Chrysene	0.08	0.03	0.05	"	0.400		20.0	10-150			
Benzo (b) fluoranthene	0.16	0.03	0.05	"	0.400		40.0	33.6-160			
Benzo (k) fluoranthene	0.15	0.02	0.05	"	0.400		37.5	33-159			
Benzo (a) pyrene	0.15	0.02	0.06	"	0.400		37.5	10-177			
Indeno (1,2,3-cd) pyrene	0.16	0.02	0.17	"	0.400		40.0	10.7-171			
Dibenz (a,h) anthracene	0.17	0.04	0.16	"	0.400		42.5	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0700*			"	*0.200*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.150*			"	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I21035-BSD1)											
Naphthalene	0.17	0.02	0.05	ug/L	0.400		42.5	10-145	12.5	40	
2-Methylnaphthalene	0.30	0.05	0.05	"	0.400		75.0	50-150	18.2	40	CC-03
Acenaphthylene	0.13	0.01	0.06	"	0.400		32.5	10-147	7.41	40	
Acenaphthene	0.19	0.02	0.05	"	0.400		47.5	10-143	11.1	40	
Fluorene	0.19	0.02	0.12	"	0.400		47.5	10-150	11.1	40	
Phenanthrene	0.25	0.02	0.06	"	0.400		62.5	10-151	12.8	40	CC-03
Anthracene	0.16	0.02	0.06	"	0.400		40.0	10-130	0.00	40	
Fluoranthene	0.16	0.03	0.06	"	0.400		40.0	10-155	6.45	40	
Pyrene	0.14	0.02	0.05	"	0.400		35.0	10-148	33.3	40	
Benzo (a) anthracene	0.12	0.02	0.06	"	0.400		30.0	10-141	40.0	40	
Chrysene	0.12	0.03	0.05	"	0.400		30.0	10-150	40.0	40	
Benzo (b) fluoranthene	0.15	0.03	0.05	"	0.400		37.5	33.6-160	6.45	40	
Benzo (k) fluoranthene	0.14	0.02	0.05	"	0.400		35.0	33-159	6.90	40	
Benzo (a) pyrene	0.14	0.02	0.06	"	0.400		35.0	10-177	6.90	40	
Indeno (1,2,3-cd) pyrene	0.15	0.02	0.17	"	0.400		37.5	10.7-171	6.45	40	
Dibenz (a,h) anthracene	0.16	0.04	0.16	"	0.400		40.0	16-164	6.06	40	
Surrogate: 2-Fluorobiphenyl	*0.0700*			"	*0.200*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.160*			"	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.140*			"	*0.200*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I21035-DUP1)			**Source: 2209286-01**								
Naphthalene	1440	116	267	ug/L		1600			10.1	45	
2-Methylnaphthalene	481	267	267	"		711			38.6	45	
Acenaphthylene	5.56	0.13	0.64	"		443			195	45	P3
Acenaphthene	1820	116	267	"		990			59.0	45	P3
Fluorene	1930	89.8	642	"		103			180	45	P3
Phenanthrene	4650	81.8	321	"		3200			37.1	45	
Anthracene	1980	81.8	321	"		979			67.6	45	P3
Fluoranthene	3210	137	321	"		2270			34.3	45	
Pyrene	1280	89.8	267	"		ND			195	45	P3
Benzo (a) anthracene	481	26.4	64.2	"		278			53.4	45	P3
Chrysene	332	32.0	53.5	"		227			37.5	45	
Benzo (b) fluoranthene	503	27.5	53.5	"		165			101	45	P3
Benzo (k) fluoranthene	396	26.4	53.5	"		51.5			154	45	P3
Benzo (a) pyrene	72.7	2.32	6.42	"		113			43.7	45	
Indeno (1,2,3-cd) pyrene	16.0	2.64	18.2	"		72.2			127	45	J, P3
Dibenz (a,h) anthracene	1.11	0.04	0.17	"		0.77			36.0	45	
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*0.214*			*11.7-100*			*SR01*
Surrogate: Nitrobenzene-d5	*0.107*			"	*0.214*		*50.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.0642*			"	*0.214*		*30.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21036 - Default Prep GenChem											
LCS (2I21036-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90-110			
LCS (2I21036-BS2)											
Specific Conductance (EC)	1070			uS/cm	1000		107	90-110			
Duplicate (2I21036-DUP1)			**Source: 2209286-03**								
Specific Conductance (EC)	489			umhos/cm @25.0 C		486			0.615	10	
Batch 2I21043 - Default Prep GenChem											
Blank (2I21043-BLK1)											
Nitrate as N	ND	0.23	0.50	mg/L							
LCS (2I21043-BS1)											
Nitrate as N	10.3	0.23	0.50	mg/L	10.0		103	70-130			
Duplicate (2I21043-DUP1)			**Source: 2209286-05**								
Nitrate as N	ND	0.23	0.50	mg/L		ND				20	
Matrix Spike (2I21043-MS1)			**Source: 2209286-05**								
Nitrate as N	5.22	0.23	0.50	mg/L	5.00	ND	104	70-130			
Matrix Spike Dup (2I21043-MSD1)			**Source: 2209286-05**								
Nitrate as N	5.23	0.23	0.50	mg/L	5.00	ND	105	70-130	0.191	30	
Batch 2I22008 - Default Prep GenChem											
Blank (2I22008-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22008 - Default Prep GenChem											
LCS (2I22008-BS1)											
Ammonia as N	4.96	0.03	0.21	mg/L	5.00		99.2	90-110			
LCS Dup (2I22008-BSD1)											
Ammonia as N	4.96	0.03	0.21	mg/L	5.00		99.2	90-110	0.00	10	
Matrix Spike (2I22008-MS1)			**Source: 2209304-01**								
Ammonia as N	5.08	0.03	0.21	mg/L	5.00	0.10	99.7	90-110			
Matrix Spike Dup (2I22008-MSD1)			**Source: 2209304-01**								
Ammonia as N	4.71	0.03	0.21	mg/L	5.00	0.10	92.3	90-110	7.56	10	
Batch 2I27028 - Default Prep GenChem											
Duplicate (2I27028-DUP1)			**Source: 2209286-02**								**HT-02**
pH	6.73			pH Units		6.75			0.297	5	
Duplicate (2I27028-DUP2)			**Source: 2209354-02**								**HT-02**
pH	6.76			pH Units		6.78			0.295	5	
Batch 2I30012 - Default Prep GenChem											
LCS (2I30012-BS1)											
Chloride	19.2	0.04	0.50	mg/L	20.0		96.0	86.3-109			
LCS Dup (2I30012-BSD1)											
Chloride	21.9	0.04	0.50	mg/L	20.0		110	86.3-109	13.1	20	L1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I30012 - Default Prep GenChem											
Duplicate (2I30012-DUP1)			**Source: 2209286-01**								
Chloride	38.0	0.04	0.50	mg/L		38.0			0.00	15	
Duplicate (2I30012-DUP2)			**Source: 2209357-06**								
Chloride	13.7	0.04	0.50	mg/L		13.7			0.00	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22009 - EPA 200.2 DCN 1017 Rev 10											
Blank (2I22009-BLK1)											
Arsenic [He]	ND	0.00049	0.00200	mg/L							
Chromium [He]	ND	0.00011	0.00100	"							
Lead [He]	ND	0.00039	0.00100	"							
Nickel [He]	ND	0.00038	0.0400	"							
LCS (2I22009-BS1)											
Arsenic [He]	0.104	0.00049	0.00200	mg/L	0.100		104	85-115			
Chromium [He]	0.104	0.00011	0.00100	"	0.100		104	85-115			
Lead [He]	0.104	0.00039	0.00100	"	0.100		104	85-115			
Nickel [He]	0.105	0.00038	0.0400	"	0.100		105	85-115			
LCS Dup (2I22009-BSD1)											
Arsenic [He]	0.106	0.00049	0.00200	mg/L	0.100		106	85-115	1.45	20	
Chromium [He]	0.106	0.00011	0.00100	"	0.100		106	85-115	2.01	20	
Lead [He]	0.104	0.00039	0.00100	"	0.100		104	85-115	0.513	20	
Nickel [He]	0.106	0.00038	0.0400	"	0.100		106	85-115	1.06	20	
Matrix Spike (2I22009-MS1)			**Source: 2209279-01**								
Arsenic [He]	0.103	0.00049	0.00200	mg/L	0.100	0.001	102	70-130			
Chromium [He]	0.097	0.00011	0.00100	"	0.100	0.0007	96.6	70-130			
Lead [He]	0.107	0.00039	0.00100	"	0.100	ND	107	70-130			
Nickel [He]	0.099	0.00038	0.0400	"	0.100	0.010	89.4	70-130			
Matrix Spike Dup (2I22009-MSD1)			**Source: 2209279-01**								
Arsenic [He]	0.106	0.00049	0.00200	mg/L	0.100	0.001	105	70-130	2.64	20	
Chromium [He]	0.102	0.00011	0.00100	"	0.100	0.0007	101	70-130	4.33	20	
Lead [He]	0.111	0.00039	0.00100	"	0.100	ND	111	70-130	3.64	20	
Nickel [He]	0.102	0.00038	0.0400	"	0.100	0.010	91.9	70-130	2.45	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
Blank (2I22006-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							CC-01
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*6.53*			"	*10.0*		*65.3*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.40*			"	*5.00*		*48.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*0.800*			"	*10.0*		*8.00*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.21*			"	*5.00*		*44.2*	*18.4-100*			
Surrogate: Phenol-d5	*2.28*			"	*10.0*		*22.8*	*10-126*			
Surrogate: Terphenyl-dl4	*2.09*			"	*5.00*		*41.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
LCS (2I22006-BS1)											
Acenaphthene	6.99	0.16	1.08	ug/L	10.0		69.9	21.2-115			
Acenaphthylene	7.08	0.11	1.16	"	10.0		70.8	17.4-116			
Anthracene	8.55	0.13	1.29	"	10.0		85.5	19.4-120			
Benzo (a) anthracene	7.62	0.18	0.92	"	10.0		76.2	31.6-117			
Benzo (b) fluoranthene	7.70	0.18	1.43	"	10.0		77.0	24.6-128			
Benzo (k) fluoranthene	6.20	0.17	0.85	"	10.0		62.0	19.5-128			
Benzo (a) pyrene	7.01	0.20	1.25	"	10.0		70.1	34.2-116			
Bis(2-ethylhexyl)phthalate	9.17	0.37	1.08	"	10.0		91.7	42.2-107			
Carbazole	6.39	2.62	7.86	"	10.0		63.9	30.1-145			
4-Chloro-3-methylphenol	8.88	0.27	1.65	"	10.0		88.8	43.1-105			
Chrysene	7.91	0.15	0.89	"	10.0		79.1	42.1-106			
Dibenz (a,h) anthracene	8.19	0.25	1.78	"	10.0		81.9	23.1-136			
Dibenzofuran	7.57	0.40	1.20	"	10.0		75.7	25-127			
2,4-Dimethylphenol	8.66	0.19	1.05	"	10.0		86.6	31.6-95.8			
2,4-Dinitrophenol	9.45	1.29	4.32	"	10.0		94.5	22.1-108			CC-03
Di-n-octyl phthalate	10.1	0.29	1.70	"	10.0		101	42.9-108			
Fluoranthene	8.78	0.20	1.50	"	10.0		87.8	47.7-104			
Fluorene	7.87	0.16	1.19	"	10.0		78.7	49.1-98.2			
Indeno (1,2,3-cd) pyrene	9.23	0.25	1.63	"	10.0		92.3	27.8-136			
2-Methylnaphthalene	6.62	0.05	1.28	"	10.0		66.2	22.3-108			
2-Methylphenol	8.28	0.41	1.24	"	10.0		82.8	15.8-123			
3 & 4-Methylphenol	14.1	1.13	3.39	"	20.0		70.4	11.1-130			
Naphthalene	6.16	0.15	0.99	"	10.0		61.6	22.1-109			
Pentachlorophenol	16.8	0.06	1.00	"	10.0		168	28.8-111			L1
Phenanthrene	7.85	0.15	1.20	"	10.0		78.5	22.1-115			
Pyrene	8.11	0.22	0.58	"	10.0		81.1	19-108			
2,4,6-Trichlorophenol	8.84	0.44	1.32	"	10.0		88.4	44.4-104			
1-Methylnaphthalene	6.25	0.05	1.28	"	10.0		62.5	23.7-97.4			
Surrogate: 2,4,6-Tribromophenol	*10.3*			"	*10.0*		*103*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.60*			"	*5.00*		*72.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*11.2*			"	*10.0*		*112*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.46*			"	*5.00*		*69.2*	*18.4-100*			
Surrogate: Phenol-d5	*3.39*			"	*10.0*		*33.9*	*10-126*			
Surrogate: Terphenyl-dl4	*2.76*			"	*5.00*		*55.2*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I22006-BSD1)											
Acenaphthene	6.94	0.16	1.08	ug/L	10.0		69.4	21.2-115	0.718	48	
Acenaphthylene	7.10	0.11	1.16	"	10.0		71.0	17.4-116	0.282	74	
Anthracene	7.90	0.13	1.29	"	10.0		79.0	19.4-120	7.90	66	
Benzo (a) anthracene	7.34	0.18	0.92	"	10.0		73.4	31.6-117	3.74	53	
Benzo (b) fluoranthene	7.58	0.18	1.43	"	10.0		75.8	24.6-128	1.57	71	
Benzo (k) fluoranthene	5.79	0.17	0.85	"	10.0		57.9	19.5-128	6.84	63	
Benzo (a) pyrene	6.95	0.20	1.25	"	10.0		69.5	34.2-116	0.860	72	
Bis(2-ethylhexyl)phthalate	10.2	0.37	1.08	"	10.0		102	42.2-107	10.5	82	
Carbazole	5.91	2.62	7.86	"	10.0		59.1	30.1-145	7.80	40	
4-Chloro-3-methylphenol	8.75	0.27	1.65	"	10.0		87.5	43.1-105	1.47	73	
Chrysene	7.47	0.15	0.89	"	10.0		74.7	42.1-106	5.72	87	
Dibenz (a,h) anthracene	7.67	0.25	1.78	"	10.0		76.7	23.1-136	6.56	126	
Dibenzofuran	7.32	0.40	1.20	"	10.0		73.2	25-127	3.36	40	
2,4-Dimethylphenol	8.40	0.19	1.05	"	10.0		84.0	31.6-95.8	3.05	58	
2,4-Dinitrophenol	8.08	1.29	4.32	"	10.0		80.8	22.1-108	15.6	132	CC-03
Di-n-octyl phthalate	11.3	0.29	1.70	"	10.0		113	42.9-108	11.4	69	L1
Fluoranthene	8.07	0.20	1.50	"	10.0		80.7	47.7-104	8.43	66	
Fluorene	7.68	0.16	1.19	"	10.0		76.8	49.1-98.2	2.44	38	
Indeno (1,2,3-cd) pyrene	5.76	0.25	1.63	"	10.0		57.6	27.8-136	46.3	99	
2-Methylnaphthalene	6.70	0.05	1.28	"	10.0		67.0	22.3-108	1.20	40	
2-Methylphenol	8.32	0.41	1.24	"	10.0		83.2	15.8-123	0.482	40	
3 & 4-Methylphenol	14.6	1.13	3.39	"	20.0		72.9	11.1-130	3.56	40	
Naphthalene	6.21	0.15	0.99	"	10.0		62.1	22.1-109	0.808	65	
Pentachlorophenol	15.3	0.06	1.00	"	10.0		153	28.8-111	9.17	86	L1
Phenanthrene	7.43	0.15	1.20	"	10.0		74.3	22.1-115	5.50	39	
Pyrene	8.61	0.22	0.58	"	10.0		86.1	19-108	5.98	49	
2,4,6-Trichlorophenol	8.67	0.44	1.32	"	10.0		86.7	44.4-104	1.94	58	
1-Methylnaphthalene	6.37	0.05	1.28	"	10.0		63.7	23.7-97.4	1.90	40	
Surrogate: 2,4,6-Tribromophenol	*9.61*			"	*10.0*		*96.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.48*			"	*5.00*		*69.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*9.34*			"	*10.0*		*93.4*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.46*			"	*5.00*		*69.2*	*18.4-100*			
Surrogate: Phenol-d5	*3.40*			"	*10.0*		*34.0*	*10-126*			
Surrogate: Terphenyl-dl4	*2.89*			"	*5.00*		*57.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I22006-DUP1)			**Source: 2209286-02**								
Acenaphthene	4.36	0.17	1.13	ug/L		11.2			88.0	45	P3
Acenaphthylene	ND	0.12	1.21	"		ND				45	
Anthracene	ND	0.13	1.35	"		ND				45	
Benzo (a) anthracene	0.39	0.19	0.96	"		1.09			95.3	45	J, P3
Benzo (b) fluoranthene	0.46	0.19	1.50	"		2.04			126	45	J, P3
Benzo (k) fluoranthene	ND	0.18	0.89	"		ND				45	
Benzo (a) pyrene	ND	0.21	1.31	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.13	"		ND				45	
Carbazole	ND	2.74	8.23	"		ND				45	
4-Chloro-3-methylphenol	ND	0.29	1.73	"		ND				45	
Chrysene	0.35	0.16	0.93	"		1.62			130	45	J, P3
Dibenz (a,h) anthracene	ND	0.26	1.86	"		ND				45	
Dibenzofuran	ND	0.42	1.26	"		ND				45	
2,4-Dimethylphenol	ND	0.20	1.10	"		ND				45	
2,4-Dinitrophenol	ND	1.35	4.52	"		ND				45	CC-01
Di-n-octyl phthalate	ND	0.30	1.78	"		ND				45	
Fluoranthene	2.15	0.21	1.57	"		6.27			98.0	45	P3
Fluorene	2.28	0.17	1.25	"		6.80			99.5	45	P3
Indeno (1,2,3-cd) pyrene	ND	0.26	1.71	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.34	"		ND				45	
2-Methylphenol	ND	0.43	1.30	"		ND				45	
3 & 4-Methylphenol	ND	1.18	3.55	"		ND				45	
Naphthalene	ND	0.16	1.04	"		ND				45	
Pentachlorophenol	ND	0.07	1.05	"		ND				45	
Phenanthrene	0.91	0.15	1.26	"		1.95			72.6	45	J, P3
Pyrene	1.14	0.23	0.61	"		3.96			110	45	P3
2,4,6-Trichlorophenol	ND	0.46	1.38	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.34	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*9.33*			"	*10.5*		*89.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.71*			"	*5.24*		*51.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*0.649*			"	*10.5*		*6.20*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.37*			"	*5.24*		*45.2*	*18.4-100*			
Surrogate: Phenol-d5	*1.85*			"	*10.5*		*17.7*	*10-126*			
Surrogate: Terphenyl-dl4	*2.19*			"	*5.24*		*41.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2I22006-MS1)		**Source: 2209286-02**									
Acenaphthene	11.7	0.17	1.12	ug/L	10.4	11.2	4.56	36.4-100			M5
Acenaphthylene	5.36	0.12	1.20	"	10.4	ND	51.7	35.5-100			
Anthracene	7.30	0.13	1.34	"	10.4	ND	70.4	39.6-100			
Benzo (a) anthracene	7.22	0.19	0.95	"	10.4	1.09	59.2	37.9-100			
Benzo (b) fluoranthene	7.04	0.19	1.48	"	10.4	2.04	48.2	34.4-105			
Benzo (k) fluoranthene	5.03	0.18	0.88	"	10.4	ND	48.5	32.7-100			
Benzo (a) pyrene	6.30	0.21	1.30	"	10.4	ND	60.8	40.6-100			
Bis(2-ethylhexyl)phthalate	7.53	0.38	1.12	"	10.4	ND	72.7	8-158			
Carbazole	8.16	2.72	8.15	"	10.4	ND	78.7	15.3-151			
4-Chloro-3-methylphenol	6.51	0.28	1.71	"	10.4	ND	62.8	22-147			
Chrysene	7.59	0.16	0.92	"	10.4	1.62	57.6	34.8-100			
Dibenz (a,h) anthracene	5.97	0.26	1.84	"	10.4	ND	57.6	10-176			
Dibenzofuran	6.08	0.41	1.24	"	10.4	ND	58.7	38.3-107			
2,4-Dimethylphenol	6.20	0.20	1.09	"	10.4	ND	59.8	32-120			
2,4-Dinitrophenol	12.7	1.34	4.48	"	10.4	ND	123	5-191			CC-03
Di-n-octyl phthalate	7.45	0.30	1.76	"	10.4	ND	71.9	4-146			
Fluoranthene	12.6	0.21	1.55	"	10.4	6.27	61.1	44.8-100			
Fluorene	9.93	0.17	1.23	"	10.4	6.80	30.1	40.1-100			M5
Indeno (1,2,3-cd) pyrene	5.01	0.25	1.69	"	10.4	ND	48.3	10-173			
2-Methylnaphthalene	5.41	0.05	1.33	"	10.4	ND	52.2	16.6-107			
2-Methylphenol	5.55	0.43	1.28	"	10.4	ND	53.6	7.21-120			
3 & 4-Methylphenol	11.3	1.17	3.51	"	20.7	ND	54.6	8-134			
Naphthalene	4.51	0.16	1.03	"	10.4	ND	43.5	29.1-100			
Pentachlorophenol	12.4	0.07	1.04	"	10.4	ND	119	14-176			
Phenanthrene	7.38	0.15	1.24	"	10.4	1.95	52.4	40.7-100			
Pyrene	8.75	0.23	0.60	"	10.4	3.96	46.2	40.6-100			
2,4,6-Trichlorophenol	6.44	0.46	1.37	"	10.4	ND	62.1	37-144			
1-Methylnaphthalene	5.31	0.05	1.33	"	10.4	ND	51.2	18.5-100			
Surrogate: 2,4,6-Tribromophenol	*7.47*			"	*10.4*		*72.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.57*			"	*5.18*		*49.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*8.07*			"	*10.4*		*77.9*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.60*			"	*5.18*		*50.2*	*18.4-100*			
Surrogate: Phenol-d5	*2.46*			"	*10.4*		*23.7*	*10-126*			
Surrogate: Terphenyl-dl4	*1.71*			"	*5.18*		*33.0*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
Blank (2I23001-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*76.6*			"	*100*		*76.6*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*30.3*			"	*50.0*		*60.5*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.2*			"	*100*		*29.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*25.9*			"	*50.0*		*51.9*	*10-100*			
Surrogate: Phenol-d5	*22.7*			"	*100*		*22.7*	*10-112*			
Surrogate: Terphenyl-dl4	*24.3*			"	*50.0*		*48.6*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
LCS (2I23001-BS1)											
Acenaphthene	71.5	1.13	10.0	ug/L	100		71.5	36.1-108			
Acenaphthylene	69.8	1.07	10.0	"	100		69.8	34.6-109			
Anthracene	49.0	0.99	10.0	"	100		49.0	36.4-106			
Benzo (a) anthracene	65.5	0.87	10.0	"	100		65.5	42.9-101			
Benzo (b) fluoranthene	64.0	1.03	10.0	"	100		64.0	43.7-105			
Benzo (k) fluoranthene	66.1	1.01	10.0	"	100		66.1	38.1-112			
Benzo (a) pyrene	68.6	0.98	10.0	"	100		68.6	46.5-104			
Bis(2-ethylhexyl)phthalate	64.5	1.14	10.0	"	100		64.5	25.1-113			
Carbazole	42.5	0.90	10.0	"	100		42.5	5.43-162			
4-Chloro-3-methylphenol	56.3	1.04	10.0	"	100		56.3	39.1-106			
Chrysene	58.1	0.92	10.0	"	100		58.1	43.2-103			
Dibenz (a,h) anthracene	80.6	0.67	10.0	"	100		80.6	31-119			
Dibenzofuran	61.7	1.04	10.0	"	100		61.7	37.6-110			
2,4-Dimethylphenol	47.5	0.84	10.0	"	100		47.5	36-100			
2,4-Dinitrophenol	45.6	3.05	10.0	"	100		45.6	10.5-124			
Di-n-octyl phthalate	66.3	1.35	10.0	"	100		66.3	33.6-111			
Fluoranthene	92.5	0.93	10.0	"	100		92.5	26.4-121			
Fluorene	84.2	1.01	10.0	"	100		84.2	36.9-109			
Indeno (1,2,3-cd) pyrene	77.8	0.89	10.0	"	100		77.8	35.6-116			
2-Methylnaphthalene	54.6	1.12	10.0	"	100		54.6	34.3-102			
2-Methylphenol	55.0	0.88	10.0	"	100		55.0	35-101			
3 & 4-Methylphenol	121	0.87	10.0	"	200		60.4	29.4-107			
Naphthalene	50.9	1.09	10.0	"	100		50.9	36.8-100			
Pentachlorophenol	37.0	2.72	10.0	"	100		37.0	15.1-115			
Phenanthrene	55.0	0.93	10.0	"	100		55.0	36.4-110			
Pyrene	38.7	1.09	10.0	"	100		38.7	23.9-114			
2,4,6-Trichlorophenol	63.1	2.58	10.0	"	100		63.1	36-104			
Surrogate: 2,4,6-Tribromophenol	*71.5*			"	*100*		*71.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.4*			"	*50.0*		*70.9*	*16.9-105*			
Surrogate: 2-Fluorophenol	*34.2*			"	*100*		*34.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.3*			"	*50.0*		*58.6*	*10-100*			
Surrogate: Phenol-d5	*31.3*			"	*100*		*31.3*	*10-112*			
Surrogate: Terphenyl-dl4	*21.2*			"	*50.0*		*42.4*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I23001-BSD1)											
Acenaphthene	65.7	1.13	10.0	ug/L	100		65.7	36.1-108	8.44	40	
Acenaphthylene	61.4	1.07	10.0	"	100		61.4	34.6-109	12.9	40	
Anthracene	53.0	0.99	10.0	"	100		53.0	36.4-106	7.77	40	
Benzo (a) anthracene	70.4	0.87	10.0	"	100		70.4	42.9-101	7.26	40	
Benzo (b) fluoranthene	65.4	1.03	10.0	"	100		65.4	43.7-105	2.09	40	
Benzo (k) fluoranthene	58.5	1.01	10.0	"	100		58.5	38.1-112	12.2	40	
Benzo (a) pyrene	67.5	0.98	10.0	"	100		67.5	46.5-104	1.51	40	
Bis(2-ethylhexyl)phthalate	69.4	1.14	10.0	"	100		69.4	25.1-113	7.31	40	
Carbazole	38.7	0.90	10.0	"	100		38.7	5.43-162	9.21	40	
4-Chloro-3-methylphenol	68.7	1.04	10.0	"	100		68.7	39.1-106	19.9	40	
Chrysene	66.6	0.92	10.0	"	100		66.6	43.2-103	13.6	40	
Dibenz (a,h) anthracene	82.1	0.67	10.0	"	100		82.1	31-119	1.83	40	
Dibenzofuran	52.5	1.04	10.0	"	100		52.5	37.6-110	16.2	40	
2,4-Dimethylphenol	50.7	0.84	10.0	"	100		50.7	36-100	6.58	40	
2,4-Dinitrophenol	54.7	3.05	10.0	"	100		54.7	10.5-124	18.1	40	
Di-n-octyl phthalate	57.9	1.35	10.0	"	100		57.9	33.6-111	13.4	40	
Fluoranthene	98.3	0.93	10.0	"	100		98.3	26.4-121	6.12	40	
Fluorene	65.0	1.01	10.0	"	100		65.0	36.9-109	25.8	40	
Indeno (1,2,3-cd) pyrene	78.1	0.89	10.0	"	100		78.1	35.6-116	0.321	40	
2-Methylnaphthalene	65.7	1.12	10.0	"	100		65.7	34.3-102	18.4	40	
2-Methylphenol	53.9	0.88	10.0	"	100		53.9	35-101	2.13	40	
3 & 4-Methylphenol	111	0.87	10.0	"	200		55.5	29.4-107	8.36	40	
Naphthalene	53.5	1.09	10.0	"	100		53.5	36.8-100	5.06	40	
Pentachlorophenol	52.3	2.72	10.0	"	100		52.3	15.1-115	34.3	40	
Phenanthrene	55.7	0.93	10.0	"	100		55.7	36.4-110	1.30	40	
Pyrene	41.9	1.09	10.0	"	100		41.9	23.9-114	7.84	40	
2,4,6-Trichlorophenol	69.9	2.58	10.0	"	100		69.9	36-104	10.1	40	
Surrogate: 2,4,6-Tribromophenol	*72.9*			"	*100*		*72.9*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*37.6*			"	*50.0*		*75.2*	*16.9-105*			
Surrogate: 2-Fluorophenol	*33.6*			"	*100*		*33.6*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.6*			"	*50.0*		*61.3*	*10-100*			
Surrogate: Phenol-d5	*29.2*			"	*100*		*29.2*	*10-112*			
Surrogate: Terphenyl-dl4	*23.5*			"	*50.0*		*47.1*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I23001-DUP1)			**Source: 2209285-02**								
Acenaphthene	ND	1.15	10.2	ug/L		ND				45	
Acenaphthylene	ND	1.09	10.2	"		ND				45	
Anthracene	ND	1.00	10.2	"		ND				45	
Benzo (a) anthracene	ND	0.88	10.2	"		ND				45	
Benzo (b) fluoranthene	ND	1.05	10.2	"		ND				45	
Benzo (k) fluoranthene	ND	1.03	10.2	"		ND				45	CC-01
Benzo (a) pyrene	ND	0.99	10.2	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"		ND				45	
Carbazole	ND	0.91	10.2	"		ND				45	
4-Chloro-3-methylphenol	ND	1.06	10.2	"		ND				45	
Chrysene	ND	0.94	10.2	"		ND				45	
Dibenz (a,h) anthracene	ND	0.68	10.2	"		ND				45	
Dibenzofuran	ND	1.06	10.2	"		ND				45	
2,4-Dimethylphenol	ND	0.85	10.2	"		ND				45	
2,4-Dinitrophenol	ND	3.10	10.2	"		ND				45	
Di-n-octyl phthalate	ND	1.37	10.2	"		ND				45	CC-01
Fluoranthene	ND	0.95	10.2	"		ND				45	
Fluorene	ND	1.03	10.2	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.90	10.2	"		ND				45	
2-Methylnaphthalene	ND	1.14	10.2	"		ND				45	
2-Methylphenol	ND	0.89	10.2	"		ND				45	
3 & 4-Methylphenol	ND	0.89	10.2	"		ND				45	
Naphthalene	ND	1.11	10.2	"		ND				45	
Pentachlorophenol	ND	2.76	10.2	"		ND				45	
Phenanthrene	ND	0.94	10.2	"		ND				45	
Pyrene	ND	1.11	10.2	"		ND				45	
2,4,6-Trichlorophenol	ND	2.62	10.2	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*66.5*			*"*	*102*		*65.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*25.4*			*"*	*50.8*		*50.0*	*16.9-105*			
Surrogate: 2-Fluorophenol	*12.6*			*"*	*102*		*12.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*15.5*			*"*	*50.8*		*30.5*	*10-100*			
Surrogate: Phenol-d5	*9.90*			*"*	*102*		*9.75*	*10-112*			*SR05*
Surrogate: Terphenyl-dl4	*21.8*			*"*	*50.8*		*43.0*	*10-105*			*SR17*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2I23001-MS1)		**Source: 2209285-02**									
Acenaphthene	63.6	1.15	10.2	ug/L	102	ND	62.7	10-121			
Acenaphthylene	60.9	1.09	10.2	"	102	ND	60.0	19-110			
Anthracene	51.1	1.00	10.2	"	102	ND	50.3	16.1-116			
Benzo (a) anthracene	68.4	0.88	10.2	"	102	ND	67.3	27.7-107			
Benzo (b) fluoranthene	67.7	1.05	10.2	"	102	ND	66.7	23.3-117			
Benzo (k) fluoranthene	61.1	1.03	10.2	"	102	ND	60.2	20.4-113			
Benzo (a) pyrene	68.1	0.99	10.2	"	102	ND	67.1	34.6-101			
Bis(2-ethylhexyl)phthalate	70.5	1.16	10.2	"	102	ND	69.5	10-108			
Carbazole	50.2	0.91	10.2	"	102	ND	49.5	10-159			
4-Chloro-3-methylphenol	60.3	1.06	10.2	"	102	ND	59.4	19.8-110			
Chrysene	64.4	0.94	10.2	"	102	ND	63.5	25.6-113			
Dibenz (a,h) anthracene	81.5	0.68	10.2	"	102	ND	80.2	15.9-129			
Dibenzofuran	54.1	1.06	10.2	"	102	ND	53.3	10-115			
2,4-Dimethylphenol	51.0	0.85	10.2	"	102	ND	50.3	17.2-115			
2,4-Dinitrophenol	47.2	3.10	10.2	"	102	ND	46.5	10-129			
Di-n-octyl phthalate	64.8	1.37	10.2	"	102	ND	63.8	21.1-102			
Fluoranthene	91.8	0.95	10.2	"	102	ND	90.4	15-119			
Fluorene	69.2	1.03	10.2	"	102	ND	68.2	10-125			
Indeno (1,2,3-cd) pyrene	78.6	0.90	10.2	"	102	ND	77.4	18.2-129			
2-Methylnaphthalene	54.6	1.14	10.2	"	102	ND	53.8	10-117			
2-Methylphenol	57.8	0.89	10.2	"	102	ND	56.9	10-106			
3 & 4-Methylphenol	120	0.89	10.2	"	203	ND	59.2	10-102			
Naphthalene	49.5	1.11	10.2	"	102	ND	48.8	19.6-98.1			
Pentachlorophenol	41.9	2.76	10.2	"	102	ND	41.3	10-125			
Phenanthrene	56.6	0.94	10.2	"	102	ND	55.7	16.9-120			
Pyrene	41.8	1.11	10.2	"	102	ND	41.2	12.3-105			
2,4,6-Trichlorophenol	60.6	2.62	10.2	"	102	ND	59.7	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*69.4*			"	*102*		*68.4*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*32.4*			"	*50.8*		*63.9*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.5*			"	*102*		*29.0*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.5*			"	*50.8*		*52.2*	*10-100*			
Surrogate: Phenol-d5	*28.5*			"	*102*		*28.1*	*10-112*			
Surrogate: Terphenyl-dl4	*21.0*			"	*50.8*		*41.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28030 - EPA 5030B											
Blank (2I28030-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*45.4*			"	*50.0*		*90.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.6*			"	*50.0*		*99.2*	*87.4-116*			
Surrogate: Toluene-d8	*49.0*			"	*50.0*		*98.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.4*			"	*50.0*		*103*	*80.4-119*			
LCS (2I28030-BS1)											
Benzene	20.7	0.258	5.00	ug/L	20.0		103	64.2-144			
Ethylbenzene	20.0	0.190	5.00	"	20.0		100	64.9-150			
Surrogate: Dibromofluoromethane	*46.9*			"	*50.0*		*93.7*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*			"	*50.0*		*95.7*	*87.4-116*			
Surrogate: Toluene-d8	*49.0*			"	*50.0*		*98.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*52.3*			"	*50.0*		*105*	*80.4-119*			
LCS Dup (2I28030-BSD1)											
Benzene	20.1	0.258	5.00	ug/L	20.0		101	64.2-144	2.65	30	
Ethylbenzene	19.7	0.190	5.00	"	20.0		98.6	64.9-150	1.41	30	
Surrogate: Dibromofluoromethane	*46.0*			"	*50.0*		*92.0*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.9*	*87.4-116*			
Surrogate: Toluene-d8	*48.2*			"	*50.0*		*96.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.1*			"	*50.0*		*102*	*80.4-119*			
Matrix Spike (2I28030-MS1)		**Source: 2209286-05**									
Benzene	24.5	0.258	5.00	ug/L	20.0	1.19	117	70-149			
Ethylbenzene	41.2	0.190	5.00	"	20.0	17.9	117	70.2-150			
Surrogate: Dibromofluoromethane	*46.7*			"	*50.0*		*93.4*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.6*			"	*50.0*		*95.2*	*87.4-116*			
Surrogate: Toluene-d8	*48.4*			"	*50.0*		*96.9*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.8*			"	*50.0*		*104*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28030 - EPA 5030B											
Matrix Spike Dup (2I28030-MSD1)		**Source: 2209286-05**									
Benzene	23.0	0.258	5.00	ug/L	20.0	1.19	109	70-149	6.44	35	
Ethylbenzene	38.3	0.190	5.00	"	20.0	17.9	102	70.2-150	7.34	35	
Surrogate: Dibromofluoromethane	*46.4*			"	*50.0*		*92.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*			"	*50.0*		*94.7*	*87.4-116*			
Surrogate: Toluene-d8	*48.2*			"	*50.0*		*96.4*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.8*			"	*50.0*		*102*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Chrysene	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 12/20/2022 12:53

2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 12:53

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 12:53

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2209286

Company Name: CAVENHAM FOREST IND.
Address: P.O BOX 15369
City: HATTIESBURG State: MS Zip: 39404
Phone: 601-544-3674
Fax: 601-544-0504

Project Manager: ETHAN ALLEN
Purchase Order #:
Email Address : EALLEN@ENV-MGT.COM
Sampler Name Printed: JEFF GONSOULIN
Sampler Name Signed:

Project Name: MOBILE CFI 3RD QTR
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal
__Next Day*
__2nd Day*
__Other*_____
*All rush order requests must be prior approved.
__Phone
__Mail
__Fax
__Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	NITRATE	CHLORIDE	METALS	AMMONIA	BNA	VOA
Preservative:											
RW-2	9-19-22/12:20	W	9	G	X	X	X	X	X	X	X
RW-1	9-19-22/13:10	W	9	G	X	X	X	X	X	X	
RC-3A	9-19-22/14:10	W	7	G	X	X	X	X	X	X	X
RC-2A	9-19-22/14:40	W	7	G	X	X	X	X	X	X	X
RW-4	9-19-22/15:45	W	11	G	X	X	X	X	X	X	X
TBV# 7028	9-19-22/12:20	W	2	G							X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

MICRO-METHODS LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2209328

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 09/21/2022 08:07. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-1	2209328-01	Water	09/20/2022 13:35	*Jeff Gonsoulin*	09/21/2022 08:07
Mobile/RC-1A	2209328-02	Water	09/20/2022 14:00	*Jeff Gonsoulin*	09/21/2022 08:07
Mobile/RW-5	2209328-03	Water	09/20/2022 15:15	*Jeff Gonsoulin*	09/21/2022 08:07
Trip Blank TBV#7031	2209328-04	Water	09/20/2022 13:35	*Micro Methods*	09/21/2022 08:07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Sample Receipt Conditions

Date/Time Received: 9/21/2022 8:07:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 9/21/2022 8:17:00AM
Cooler ID: client cooler

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.2 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:11

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:11

Chloride-ASTM D 512-12

Qualifiers:

L1 LCS and/or LCSD Recovery Limit exceeded.

Chloride

2I30012-BSD1

Semivolatile Organic Compounds by GC/MS-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol, 2-Methylnaphthalene, Benzo (k) fluoranthene, Di-n-octyl phthalate

2I22006-BLK1, 2I22006-DUP1, 2I21035-BLK1, 2I23001-DUP1

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol, 2-Methylnaphthalene, Phenanthrene

2I22006-BS1, 2I22006-BSD1, 2I22006-MS1, 2I21035-BS1, 2I21035-BSD1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 2-Methylphenol, 3 & 4-Methylphenol, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Indeno (1,2,3-cd) pyrene, Phenanthrene, Pyrene

2209328-02[Mobile/RC-1A], 2209328-01[Mobile/RC-1], 2I22006-DUP1, 2I21035-DUP1

L1 LCS and/or LCSD Recovery Limit exceeded.

Di-n-octyl phthalate, Pentachlorophenol

2I22006-BSD1, 2I22006-BS1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

Acenaphthene, Fluorene

2I22006-MS1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Acenaphthene, Acenaphthylene, Anthracene, Benzo (a) anthracene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Phenanthrene, Pyrene

2I21035-DUP1, 2I22006-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:11

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl

2I21035-DUP1

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

Phenol-d5

2I23001-DUP1

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5

2I21035-BLK1

SR17 Surrogate CCV check above acceptance limits. Actual surrogate recovery on the CCV is within acceptance limits.

Terphenyl-dl4

2209328-01[Mobile/RC-1], 2209328-02[Mobile/RC-1A], 2I23001-DUP1

Ammonia as N-Lachat 10-107-06-1-I

Qualifiers:

M2 MS/MSD Recovery below acceptable limit.

Analyte & Samples(s) Qualified:

2I28033-MS1, 2I28033-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2209328-01[Mobile/RC-1], 2209328-02[Mobile/RC-1A], 2209328-03[Mobile/RW-5], 2I27028-DUP1, 2I27028-DUP2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Mobile/RC-1

2209328-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**7.22**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:19	Lachat 10-107-06-1-I	
Chloride	**170**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**6.72**			pH Units	"	2I27028	CRG	09/27/2022 09:15	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	**0.73**	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Specific Conductance (EC)	**1030**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I23006	GWG	09/23/2022 09:00	09/27/2022 16:30	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**245**	11.7	104	ug/L	10.0	2I23001	CRLV	09/23/2022 08:02	10/03/2022 21:21	EPA 8270D	
Acenaphthylene	**2.87**	1.11	10.4	"	1.0	"	CRLV	"	09/28/2022 05:36	"	J
Anthracene	**19.9**	1.02	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.90	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**1.36**	1.07	10.4	"	"	"	CRLV	"	"	"	J
Benzo (k) fluoranthene	**4.11**	1.05	10.4	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	ND	1.01	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.18	10.4	"	"	"	CRLV	"	"	"	
Carbazole	**538**	9.30	104	"	10.0	"	CRLV	"	10/03/2022 21:21	"	
4-Chloro-3-methylphenol	**19.6**	1.08	10.4	"	1.0	"	CRLV	"	09/28/2022 05:36	"	
Chrysene	ND	0.96	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	**99.3**	1.08	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**459**	8.72	104	"	10.0	"	CRLV	"	10/03/2022 21:21	"	
2,4-Dinitrophenol	ND	3.16	10.4	"	1.0	"	CRLV	"	09/28/2022 05:36	"	
Di-n-octyl phthalate	ND	1.40	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	**46.0**	0.97	10.4	"	"	"	CRLV	"	"	"	
Fluorene	**130**	10.5	104	"	10.0	"	CRLV	"	10/03/2022 21:21	"	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"	1.0	"	CRLV	"	09/28/2022 05:36	"	
2-Methylnaphthalene	**530**	11.6	104	"	10.0	"	CRLV	"	10/03/2022 21:21	"	
2-Methylphenol	ND	0.91	10.4	"	1.0	"	CRLV	"	09/28/2022 05:36	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Mobile/RC-1

2209328-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
3 & 4-Methylphenol	**31.6**	0.90	10.4	"	1.0	2I23001	CRLV	09/23/2022 08:02	"	"	
Naphthalene	**6500**	202	1040	"	100.0	"	CRL	"	10/05/2022 15:15	"	
Pentachlorophenol	ND	2.82	10.4	"	1.0	"	CRLV	"	09/28/2022 05:36	"	
Phenanthrene	**100**	0.96	10.4	"	"	"	CRLV	"	"	"	
Pyrene	**17.0**	1.13	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.67	10.4	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	94.2	*90.9 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	32.7	*63.2 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	31.3	*30.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	32.8	*63.2 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	30.6	*29.5 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	22.4	*43.3 %*	*10-105*	"	CRLV	"	"	"	*SR17*

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**12.4**	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 21:57	EPA 8260D	
Ethylbenzene	**50.0**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.6	*89.2 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.8	*95.7 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	47.4	*94.7 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	54.8	*110 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Mobile/RC-1A

2209328-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**1.23**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:21	Lachat 10-107-06-1-I	
Chloride	**129**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**6.61**			pH Units	"	2I27028	CRG	09/27/2022 09:18	09/27/2022 09:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**731**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I23006	GWG	09/23/2022 09:00	09/27/2022 16:34	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Mobile/RC-1A

2209328-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.18	10.5	ug/L	1.0	2I23001	CRLV	09/23/2022 08:02	09/28/2022 06:10	EPA 8270D	
Acenaphthylene	**1.73**	1.12	10.5	"	"	"	CRLV	"	"	"	J
Anthracene	**5.08**	1.03	10.5	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.91	10.5	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.08	10.5	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**1.72**	1.06	10.5	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	ND	1.02	10.5	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.5	"	"	"	CRLV	"	"	"	
Carbazole	**887**	35.0	105	"	10.0	"	CRL	"	10/05/2022 17:10	"	
4-Chloro-3-methylphenol	ND	1.09	10.5	"	1.0	"	CRLV	"	09/28/2022 06:10	"	
Chrysene	ND	0.97	10.5	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.70	10.5	"	"	"	CRLV	"	"	"	
Dibenzofuran	**96.3**	1.09	10.5	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**6.79**	0.88	10.5	"	"	"	CRLV	"	"	"	J
2,4-Dinitrophenol	ND	3.19	10.5	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.41	10.5	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.98	10.5	"	"	"	CRLV	"	"	"	
Fluorene	**102**	10.6	52.4	"	10.0	"	CRLV	"	10/03/2022 20:12	"	
Indeno (1,2,3-cd) pyrene	ND	0.93	10.5	"	1.0	"	CRLV	"	09/28/2022 06:10	"	
2-Methylnaphthalene	**95.7**	1.17	10.5	"	"	"	CRLV	"	"	"	
2-Methylphenol	**2.95**	0.92	10.5	"	"	"	CRLV	"	"	"	J
3 & 4-Methylphenol	**2.88**	0.91	10.5	"	"	"	CRLV	"	"	"	J
Naphthalene	**1880**	11.4	105	"	10.0	"	CRLV	"	10/03/2022 20:12	"	
Pentachlorophenol	ND	2.85	10.5	"	1.0	"	CRLV	"	09/28/2022 06:10	"	
Phenanthrene	**66.2**	0.97	10.5	"	"	"	CRLV	"	"	"	
Pyrene	**1.38**	1.14	10.5	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.70	10.5	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	78.1	*74.6 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	31.5	*60.2 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	24.7	*23.6 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	30.4	*58.0 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	25.3	*24.2 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	23.6	*45.1 %*	*10-105*	"	CRLV	"	"	"	*SR17*

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Mobile/RC-1A

2209328-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**6.41**	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 22:20	EPA 8260D	
Ethylbenzene	**32.6**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.9	*89.7 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.5	*95.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.3	*96.6 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	53.2	*106 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Mobile/RW-5

2209328-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Benzo (a) anthracene	ND	0.03	0.06	ug/L	1.0	2I21035	CRLV	09/21/2022 10:34	09/27/2022 13:48	EPA 8270D	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Terphenyl-dl4	0.115	*55.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Ammonia as N	**0.79**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:22	Lachat 10-107-06-1-I	
Chloride	**74.0**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 11:31	ASTM D 512-12	
pH	**6.34**			pH Units	"	2I27028	CRG	09/27/2022 09:20	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I21043	DLW	09/21/2022 10:40	09/21/2022 10:40	HACH 10206	
Specific Conductance (EC)	**558**			umhos/cm @25.0 C	"	2I21036	JBM	09/21/2022 10:32	09/21/2022 10:39	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00361**	0.00049	0.00200	mg/L	1.0	2I23006	GWG	09/23/2022 09:00	09/27/2022 16:38	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.0181**	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Mobile/RW-5

2209328-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**508**	16.8	111	ug/L	100.0	2I22006	CRLV	09/22/2022 08:26	09/28/2022 11:44	EPA 8270D	
Acenaphthylene	**4.31**	1.15	4.10	"	10.0	"	CRLV	"	09/28/2022 13:37	"	
Anthracene	**12.1**	0.13	1.32	"	1.0	"	CRLV	"	09/27/2022 01:02	"	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	"	"	"	CRLV	"	"	"	
Carbazole	**755**	269	718	"	100.0	"	CRLV	"	09/28/2022 11:44	"	
4-Chloro-3-methylphenol	ND	2.81	16.9	"	10.0	"	CRLV	"	09/28/2022 13:37	"	
Dibenzofuran	**215**	40.9	123	"	100.0	"	CRLV	"	09/28/2022 11:44	"	
2,4-Dimethylphenol	**76.8**	1.95	10.8	"	10.0	"	CRLV	"	09/28/2022 13:37	"	
2,4-Dinitrophenol	ND	13.2	44.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.74	"	1.0	"	CRLV	"	09/27/2022 01:02	"	
Fluoranthene	**4.97**	0.21	1.54	"	"	"	CRLV	"	"	"	
Fluorene	**239**	16.4	122	"	100.0	"	CRLV	"	09/28/2022 11:44	"	
2-Methylnaphthalene	**231**	5.13	131	"	"	"	CRLV	"	"	"	
2-Methylphenol	**11.7**	0.42	1.27	"	1.0	"	CRLV	"	09/27/2022 01:02	"	
3 & 4-Methylphenol	**5.17**	1.16	3.48	"	"	"	CRLV	"	"	"	
Naphthalene	**4430**	15.8	102	"	100.0	"	CRLV	"	09/28/2022 11:44	"	
Pentachlorophenol	ND	0.07	1.03	"	1.0	"	CRLV	"	09/27/2022 01:02	"	
Phenanthrene	**192**	15.0	123	"	100.0	"	CRLV	"	09/28/2022 11:44	"	
Pyrene	**1.76**	0.23	0.59	"	1.0	"	CRLV	"	09/27/2022 01:02	"	
2,4,6-Trichlorophenol	ND	4.51	13.5	"	10.0	"	CRLV	"	09/28/2022 13:37	"	
1-Methylnaphthalene	**277**	5.13	131	"	100.0	"	CRLV	"	09/28/2022 11:44	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	6.67	*65.0 %*	*0-200*	"	CRLV	"	*09/28/2022 13:37*	"	
2-Fluorobiphenyl	2.77	*54.0 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	0.277	*2.70 %*	*0-200*	"	CRLV	"	*09/27/2022 01:02*	"	
Nitrobenzene-d5	1.54	*30.0 %*	*18.4-100*	"	CRLV	"	*09/28/2022 13:37*	"	
Phenol-d5	3.28	*32.0 %*	*10-126*	"	CRLV	"	*09/27/2022 01:02*	"	
Terphenyl-dl4	2.99	*58.4 %*	*28.8-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 22:44	EPA 8260D	
Ethylbenzene	**24.1**	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:11

Mobile/RW-5

2209328-03 (Water)

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	43.3	*86.7 %*	*83.9-122*			*2I28030*	BSF	*09/27/2022 08:00*	"	"	
1,2-Dichloroethane-d4	47.5	*95.0 %*	*87.4-116*			"	BSF	"	"	"	
Toluene-d8	48.2	*96.4 %*	*81.4-118*			"	BSF	"	"	"	
4-Bromofluorobenzene	51.4	*103 %*	*80.4-119*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Trip Blank TBV#7031

2209328-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/27/2022 23:07	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.4	*88.8 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.6	*95.2 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	47.8	*95.6 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.3	*103 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
Blank (2I21035-BLK1)											
Naphthalene	ND	0.02	0.05	ug/L							
2-Methylnaphthalene	ND	0.05	0.05	"							CC-01
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	ND	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.0600*			"	*0.200*		*30.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.230*			"	*0.200*		*115*	*19.6-113*			*SR06*
Surrogate: Terphenyl-dl4	*0.170*			"	*0.200*		*85.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
LCS (2I21035-BS1)											
Naphthalene	0.15	0.02	0.05	ug/L	0.400		37.5	10-145			
2-Methylnaphthalene	0.25	0.05	0.05	"	0.400		62.5	50-150			CC-03
Acenaphthylene	0.14	0.01	0.06	"	0.400		35.0	10-147			
Acenaphthene	0.17	0.02	0.05	"	0.400		42.5	10-143			
Fluorene	0.17	0.02	0.12	"	0.400		42.5	10-150			
Phenanthrene	0.22	0.02	0.06	"	0.400		55.0	10-151			CC-03
Anthracene	0.16	0.02	0.06	"	0.400		40.0	10-130			
Fluoranthene	0.15	0.03	0.06	"	0.400		37.5	10-155			
Pyrene	0.10	0.02	0.05	"	0.400		25.0	10-148			
Benzo (a) anthracene	0.08	0.02	0.06	"	0.400		20.0	10-141			
Chrysene	0.08	0.03	0.05	"	0.400		20.0	10-150			
Benzo (b) fluoranthene	0.16	0.03	0.05	"	0.400		40.0	33.6-160			
Benzo (k) fluoranthene	0.15	0.02	0.05	"	0.400		37.5	33-159			
Benzo (a) pyrene	0.15	0.02	0.06	"	0.400		37.5	10-177			
Indeno (1,2,3-cd) pyrene	0.16	0.02	0.17	"	0.400		40.0	10.7-171			
Dibenz (a,h) anthracene	0.17	0.04	0.16	"	0.400		42.5	16-164			
Surrogate: 2-Fluorobiphenyl	*0.0700*			"	*0.200*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.150*			"	*0.200*		*75.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.120*			"	*0.200*		*60.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I21035-BSD1)											
Naphthalene	0.17	0.02	0.05	ug/L	0.400		42.5	10-145	12.5	40	
2-Methylnaphthalene	0.30	0.05	0.05	"	0.400		75.0	50-150	18.2	40	CC-03
Acenaphthylene	0.13	0.01	0.06	"	0.400		32.5	10-147	7.41	40	
Acenaphthene	0.19	0.02	0.05	"	0.400		47.5	10-143	11.1	40	
Fluorene	0.19	0.02	0.12	"	0.400		47.5	10-150	11.1	40	
Phenanthrene	0.25	0.02	0.06	"	0.400		62.5	10-151	12.8	40	CC-03
Anthracene	0.16	0.02	0.06	"	0.400		40.0	10-130	0.00	40	
Fluoranthene	0.16	0.03	0.06	"	0.400		40.0	10-155	6.45	40	
Pyrene	0.14	0.02	0.05	"	0.400		35.0	10-148	33.3	40	
Benzo (a) anthracene	0.12	0.02	0.06	"	0.400		30.0	10-141	40.0	40	
Chrysene	0.12	0.03	0.05	"	0.400		30.0	10-150	40.0	40	
Benzo (b) fluoranthene	0.15	0.03	0.05	"	0.400		37.5	33.6-160	6.45	40	
Benzo (k) fluoranthene	0.14	0.02	0.05	"	0.400		35.0	33-159	6.90	40	
Benzo (a) pyrene	0.14	0.02	0.06	"	0.400		35.0	10-177	6.90	40	
Indeno (1,2,3-cd) pyrene	0.15	0.02	0.17	"	0.400		37.5	10.7-171	6.45	40	
Dibenz (a,h) anthracene	0.16	0.04	0.16	"	0.400		40.0	16-164	6.06	40	
Surrogate: 2-Fluorobiphenyl	*0.0700*			"	*0.200*		*35.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.160*			"	*0.200*		*80.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.140*			"	*0.200*		*70.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21035 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I21035-DUP1)			**Source: 2209286-01**								
Naphthalene	1440	116	267	ug/L		1600			10.1	45	
2-Methylnaphthalene	481	267	267	"		711			38.6	45	
Acenaphthylene	5.56	0.13	0.64	"		443			195	45	P3
Acenaphthene	1820	116	267	"		990			59.0	45	P3
Fluorene	1930	89.8	642	"		103			180	45	P3
Phenanthrene	4650	81.8	321	"		3200			37.1	45	
Anthracene	1980	81.8	321	"		979			67.6	45	P3
Fluoranthene	3210	137	321	"		2270			34.3	45	
Pyrene	1280	89.8	267	"		ND			195	45	P3
Benzo (a) anthracene	481	26.4	64.2	"		278			53.4	45	P3
Chrysene	332	32.0	53.5	"		227			37.5	45	
Benzo (b) fluoranthene	503	27.5	53.5	"		165			101	45	P3
Benzo (k) fluoranthene	396	26.4	53.5	"		51.5			154	45	P3
Benzo (a) pyrene	72.7	2.32	6.42	"		113			43.7	45	
Indeno (1,2,3-cd) pyrene	16.0	2.64	18.2	"		72.2			127	45	J, P3
Dibenz (a,h) anthracene	1.11	0.04	0.17	"		0.77			36.0	45	
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*0.214*			*11.7-100*			*SR01*
Surrogate: Nitrobenzene-d5	*0.107*			"	*0.214*		*50.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.0642*			"	*0.214*		*30.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I21036 - Default Prep GenChem											
LCS (2I21036-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90-110			
LCS (2I21036-BS2)											
Specific Conductance (EC)	1070			uS/cm	1000		107	90-110			
Duplicate (2I21036-DUP1)			**Source: 2209286-03**								
Specific Conductance (EC)	489			umhos/cm @25.0 C		486			0.615	10	
Batch 2I21043 - Default Prep GenChem											
Blank (2I21043-BLK1)											
Nitrate as N	ND	0.23	0.50	mg/L							
LCS (2I21043-BS1)											
Nitrate as N	10.3	0.23	0.50	mg/L	10.0		103	70-130			
Duplicate (2I21043-DUP1)			**Source: 2209286-05**								
Nitrate as N	ND	0.23	0.50	mg/L		ND				20	
Matrix Spike (2I21043-MS1)			**Source: 2209286-05**								
Nitrate as N	5.22	0.23	0.50	mg/L	5.00	ND	104	70-130			
Matrix Spike Dup (2I21043-MSD1)			**Source: 2209286-05**								
Nitrate as N	5.23	0.23	0.50	mg/L	5.00	ND	105	70-130	0.191	30	
Batch 2I27028 - Default Prep GenChem											
Duplicate (2I27028-DUP1)			**Source: 2209286-02**								**HT-02**
pH	6.73			pH Units		6.75			0.297	5	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I27028 - Default Prep GenChem											
Duplicate (2I27028-DUP2)		**Source: 2209354-02**									**HT-02**
pH	6.76			pH Units		6.78			0.295	5	
Batch 2I28033 - Default Prep GenChem											
Blank (2I28033-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2I28033-BS1)											
Ammonia as N	4.63	0.03	0.21	mg/L	5.00		92.6	90-110			
LCS Dup (2I28033-BSD1)											
Ammonia as N	4.54	0.03	0.21	mg/L	5.00		90.8	90-110	1.96	10	
Duplicate (2I28033-DUP1)		**Source: 2209354-03**									
Ammonia as N	11.6	0.03	0.21	mg/L		11.6			0.00	10	
Matrix Spike (2I28033-MS1)		**Source: 2209306-01**									**M2**
Ammonia as N	4.55	0.03	0.21	mg/L	5.00	0.07	89.6	90-110			
Matrix Spike Dup (2I28033-MSD1)		**Source: 2209306-01**									**M2**
Ammonia as N	4.43	0.03	0.21	mg/L	5.00	0.07	87.2	90-110	2.67	10	
Batch 2I30012 - Default Prep GenChem											
LCS (2I30012-BS1)											
Chloride	19.2	0.04	0.50	mg/L	20.0		96.0	86.3-109			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I30012 - Default Prep GenChem											
LCS Dup (2I30012-BSD1)											
Chloride	21.9	0.04	0.50	mg/L	20.0		110	86.3-109	13.1	20	L1
Duplicate (2I30012-DUP1)			**Source: 2209286-01**								
Chloride	38.0	0.04	0.50	mg/L		38.0			0.00	15	
Duplicate (2I30012-DUP2)			**Source: 2209357-06**								
Chloride	13.7	0.04	0.50	mg/L		13.7			0.00	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23006 - EPA 200.2 DCN 1017 Rev 10											
Blank (2I23006-BLK1)											
Arsenic [He]	ND	0.00049	0.00200	mg/L							
Chromium [He]	ND	0.00011	0.00100	"							
Lead [He]	ND	0.00039	0.00100	"							
Nickel [He]	ND	0.00038	0.0400	"							
LCS (2I23006-BS1)											
Arsenic [He]	0.100	0.00049	0.00200	mg/L	0.100		100	85-115			
Chromium [He]	0.100	0.00011	0.00100	"	0.100		100	85-115			
Lead [He]	0.102	0.00039	0.00100	"	0.100		102	85-115			
Nickel [He]	0.095	0.00038	0.0400	"	0.100		95.0	85-115			
LCS Dup (2I23006-BSD1)											
Arsenic [He]	0.100	0.00049	0.00200	mg/L	0.100		100	85-115	0.0538	20	
Chromium [He]	0.098	0.00011	0.00100	"	0.100		98.4	85-115	1.75	20	
Lead [He]	0.101	0.00039	0.00100	"	0.100		101	85-115	1.29	20	
Nickel [He]	0.095	0.00038	0.0400	"	0.100		95.2	85-115	0.289	20	
Matrix Spike (2I23006-MS1)			**Source: 2209341-01**								
Arsenic [He]	0.098	0.00049	0.00200	mg/L	0.100	ND	98.2	70-130			
Chromium [He]	0.098	0.00011	0.00100	"	0.100	ND	97.8	70-130			
Lead [He]	0.099	0.00039	0.00100	"	0.100	ND	99.2	70-130			
Nickel [He]	0.093	0.00038	0.0400	"	0.100	ND	92.6	70-130			
Matrix Spike Dup (2I23006-MSD1)			**Source: 2209341-01**								
Arsenic [He]	0.098	0.00049	0.00200	mg/L	0.100	ND	98.2	70-130	0.00679	20	
Chromium [He]	0.097	0.00011	0.00100	"	0.100	ND	96.6	70-130	1.25	20	
Lead [He]	0.099	0.00039	0.00100	"	0.100	ND	99.2	70-130	0.0772	20	
Nickel [He]	0.093	0.00038	0.0400	"	0.100	ND	93.1	70-130	0.534	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
Blank (2I22006-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							CC-01
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*6.53*			"	*10.0*		*65.3*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.40*			"	*5.00*		*48.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*0.800*			"	*10.0*		*8.00*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.21*			"	*5.00*		*44.2*	*18.4-100*			
Surrogate: Phenol-d5	*2.28*			"	*10.0*		*22.8*	*10-126*			
Surrogate: Terphenyl-dl4	*2.09*			"	*5.00*		*41.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
LCS (2I22006-BS1)											
Acenaphthene	6.99	0.16	1.08	ug/L	10.0		69.9	21.2-115			
Acenaphthylene	7.08	0.11	1.16	"	10.0		70.8	17.4-116			
Anthracene	8.55	0.13	1.29	"	10.0		85.5	19.4-120			
Benzo (a) anthracene	7.62	0.18	0.92	"	10.0		76.2	31.6-117			
Benzo (b) fluoranthene	7.70	0.18	1.43	"	10.0		77.0	24.6-128			
Benzo (k) fluoranthene	6.20	0.17	0.85	"	10.0		62.0	19.5-128			
Benzo (a) pyrene	7.01	0.20	1.25	"	10.0		70.1	34.2-116			
Bis(2-ethylhexyl)phthalate	9.17	0.37	1.08	"	10.0		91.7	42.2-107			
Carbazole	6.39	2.62	7.86	"	10.0		63.9	30.1-145			
4-Chloro-3-methylphenol	8.88	0.27	1.65	"	10.0		88.8	43.1-105			
Chrysene	7.91	0.15	0.89	"	10.0		79.1	42.1-106			
Dibenz (a,h) anthracene	8.19	0.25	1.78	"	10.0		81.9	23.1-136			
Dibenzofuran	7.57	0.40	1.20	"	10.0		75.7	25-127			
2,4-Dimethylphenol	8.66	0.19	1.05	"	10.0		86.6	31.6-95.8			
2,4-Dinitrophenol	9.45	1.29	4.32	"	10.0		94.5	22.1-108			CC-03
Di-n-octyl phthalate	10.1	0.29	1.70	"	10.0		101	42.9-108			
Fluoranthene	8.78	0.20	1.50	"	10.0		87.8	47.7-104			
Fluorene	7.87	0.16	1.19	"	10.0		78.7	49.1-98.2			
Indeno (1,2,3-cd) pyrene	9.23	0.25	1.63	"	10.0		92.3	27.8-136			
2-Methylnaphthalene	6.62	0.05	1.28	"	10.0		66.2	22.3-108			
2-Methylphenol	8.28	0.41	1.24	"	10.0		82.8	15.8-123			
3 & 4-Methylphenol	14.1	1.13	3.39	"	20.0		70.4	11.1-130			
Naphthalene	6.16	0.15	0.99	"	10.0		61.6	22.1-109			
Pentachlorophenol	16.8	0.06	1.00	"	10.0		168	28.8-111			L1
Phenanthrene	7.85	0.15	1.20	"	10.0		78.5	22.1-115			
Pyrene	8.11	0.22	0.58	"	10.0		81.1	19-108			
2,4,6-Trichlorophenol	8.84	0.44	1.32	"	10.0		88.4	44.4-104			
1-Methylnaphthalene	6.25	0.05	1.28	"	10.0		62.5	23.7-97.4			
Surrogate: 2,4,6-Tribromophenol	*10.3*			"	*10.0*		*103*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.60*			"	*5.00*		*72.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*11.2*			"	*10.0*		*112*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.46*			"	*5.00*		*69.2*	*18.4-100*			
Surrogate: Phenol-d5	*3.39*			"	*10.0*		*33.9*	*10-126*			
Surrogate: Terphenyl-dl4	*2.76*			"	*5.00*		*55.2*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I22006-BSD1)											
Acenaphthene	6.94	0.16	1.08	ug/L	10.0		69.4	21.2-115	0.718	48	
Acenaphthylene	7.10	0.11	1.16	"	10.0		71.0	17.4-116	0.282	74	
Anthracene	7.90	0.13	1.29	"	10.0		79.0	19.4-120	7.90	66	
Benzo (a) anthracene	7.34	0.18	0.92	"	10.0		73.4	31.6-117	3.74	53	
Benzo (b) fluoranthene	7.58	0.18	1.43	"	10.0		75.8	24.6-128	1.57	71	
Benzo (k) fluoranthene	5.79	0.17	0.85	"	10.0		57.9	19.5-128	6.84	63	
Benzo (a) pyrene	6.95	0.20	1.25	"	10.0		69.5	34.2-116	0.860	72	
Bis(2-ethylhexyl)phthalate	10.2	0.37	1.08	"	10.0		102	42.2-107	10.5	82	
Carbazole	5.91	2.62	7.86	"	10.0		59.1	30.1-145	7.80	40	
4-Chloro-3-methylphenol	8.75	0.27	1.65	"	10.0		87.5	43.1-105	1.47	73	
Chrysene	7.47	0.15	0.89	"	10.0		74.7	42.1-106	5.72	87	
Dibenz (a,h) anthracene	7.67	0.25	1.78	"	10.0		76.7	23.1-136	6.56	126	
Dibenzofuran	7.32	0.40	1.20	"	10.0		73.2	25-127	3.36	40	
2,4-Dimethylphenol	8.40	0.19	1.05	"	10.0		84.0	31.6-95.8	3.05	58	
2,4-Dinitrophenol	8.08	1.29	4.32	"	10.0		80.8	22.1-108	15.6	132	CC-03
Di-n-octyl phthalate	11.3	0.29	1.70	"	10.0		113	42.9-108	11.4	69	L1
Fluoranthene	8.07	0.20	1.50	"	10.0		80.7	47.7-104	8.43	66	
Fluorene	7.68	0.16	1.19	"	10.0		76.8	49.1-98.2	2.44	38	
Indeno (1,2,3-cd) pyrene	5.76	0.25	1.63	"	10.0		57.6	27.8-136	46.3	99	
2-Methylnaphthalene	6.70	0.05	1.28	"	10.0		67.0	22.3-108	1.20	40	
2-Methylphenol	8.32	0.41	1.24	"	10.0		83.2	15.8-123	0.482	40	
3 & 4-Methylphenol	14.6	1.13	3.39	"	20.0		72.9	11.1-130	3.56	40	
Naphthalene	6.21	0.15	0.99	"	10.0		62.1	22.1-109	0.808	65	
Pentachlorophenol	15.3	0.06	1.00	"	10.0		153	28.8-111	9.17	86	L1
Phenanthrene	7.43	0.15	1.20	"	10.0		74.3	22.1-115	5.50	39	
Pyrene	8.61	0.22	0.58	"	10.0		86.1	19-108	5.98	49	
2,4,6-Trichlorophenol	8.67	0.44	1.32	"	10.0		86.7	44.4-104	1.94	58	
1-Methylnaphthalene	6.37	0.05	1.28	"	10.0		63.7	23.7-97.4	1.90	40	
Surrogate: 2,4,6-Tribromophenol	*9.61*			"	*10.0*		*96.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.48*			"	*5.00*		*69.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*9.34*			"	*10.0*		*93.4*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.46*			"	*5.00*		*69.2*	*18.4-100*			
Surrogate: Phenol-d5	*3.40*			"	*10.0*		*34.0*	*10-126*			
Surrogate: Terphenyl-dl4	*2.89*			"	*5.00*		*57.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I22006-DUP1)			**Source: 2209286-02**								
Acenaphthene	4.36	0.17	1.13	ug/L		11.2			88.0	45	P3
Acenaphthylene	ND	0.12	1.21	"		ND				45	
Anthracene	ND	0.13	1.35	"		ND				45	
Benzo (a) anthracene	0.39	0.19	0.96	"		1.09			95.3	45	J, P3
Benzo (b) fluoranthene	0.46	0.19	1.50	"		2.04			126	45	J, P3
Benzo (k) fluoranthene	ND	0.18	0.89	"		ND				45	
Benzo (a) pyrene	ND	0.21	1.31	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.13	"		ND				45	
Carbazole	ND	2.74	8.23	"		ND				45	
4-Chloro-3-methylphenol	ND	0.29	1.73	"		ND				45	
Chrysene	0.35	0.16	0.93	"		1.62			130	45	J, P3
Dibenz (a,h) anthracene	ND	0.26	1.86	"		ND				45	
Dibenzofuran	ND	0.42	1.26	"		ND				45	
2,4-Dimethylphenol	ND	0.20	1.10	"		ND				45	
2,4-Dinitrophenol	ND	1.35	4.52	"		ND				45	CC-01
Di-n-octyl phthalate	ND	0.30	1.78	"		ND				45	
Fluoranthene	2.15	0.21	1.57	"		6.27			98.0	45	P3
Fluorene	2.28	0.17	1.25	"		6.80			99.5	45	P3
Indeno (1,2,3-cd) pyrene	ND	0.26	1.71	"		ND				45	
2-Methylnaphthalene	ND	0.05	1.34	"		ND				45	
2-Methylphenol	ND	0.43	1.30	"		ND				45	
3 & 4-Methylphenol	ND	1.18	3.55	"		ND				45	
Naphthalene	ND	0.16	1.04	"		ND				45	
Pentachlorophenol	ND	0.07	1.05	"		ND				45	
Phenanthrene	0.91	0.15	1.26	"		1.95			72.6	45	J, P3
Pyrene	1.14	0.23	0.61	"		3.96			110	45	P3
2,4,6-Trichlorophenol	ND	0.46	1.38	"		ND				45	
1-Methylnaphthalene	ND	0.05	1.34	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*9.33*			"	*10.5*		*89.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.71*			"	*5.24*		*51.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*0.649*			"	*10.5*		*6.20*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.37*			"	*5.24*		*45.2*	*18.4-100*			
Surrogate: Phenol-d5	*1.85*			"	*10.5*		*17.7*	*10-126*			
Surrogate: Terphenyl-dl4	*2.19*			"	*5.24*		*41.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22006 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2I22006-MS1)		**Source: 2209286-02**									
Acenaphthene	11.7	0.17	1.12	ug/L	10.4	11.2	4.56	36.4-100			M5
Acenaphthylene	5.36	0.12	1.20	"	10.4	ND	51.7	35.5-100			
Anthracene	7.30	0.13	1.34	"	10.4	ND	70.4	39.6-100			
Benzo (a) anthracene	7.22	0.19	0.95	"	10.4	1.09	59.2	37.9-100			
Benzo (b) fluoranthene	7.04	0.19	1.48	"	10.4	2.04	48.2	34.4-105			
Benzo (k) fluoranthene	5.03	0.18	0.88	"	10.4	ND	48.5	32.7-100			
Benzo (a) pyrene	6.30	0.21	1.30	"	10.4	ND	60.8	40.6-100			
Bis(2-ethylhexyl)phthalate	7.53	0.38	1.12	"	10.4	ND	72.7	8-158			
Carbazole	8.16	2.72	8.15	"	10.4	ND	78.7	15.3-151			
4-Chloro-3-methylphenol	6.51	0.28	1.71	"	10.4	ND	62.8	22-147			
Chrysene	7.59	0.16	0.92	"	10.4	1.62	57.6	34.8-100			
Dibenz (a,h) anthracene	5.97	0.26	1.84	"	10.4	ND	57.6	10-176			
Dibenzofuran	6.08	0.41	1.24	"	10.4	ND	58.7	38.3-107			
2,4-Dimethylphenol	6.20	0.20	1.09	"	10.4	ND	59.8	32-120			
2,4-Dinitrophenol	12.7	1.34	4.48	"	10.4	ND	123	5-191			CC-03
Di-n-octyl phthalate	7.45	0.30	1.76	"	10.4	ND	71.9	4-146			
Fluoranthene	12.6	0.21	1.55	"	10.4	6.27	61.1	44.8-100			
Fluorene	9.93	0.17	1.23	"	10.4	6.80	30.1	40.1-100			M5
Indeno (1,2,3-cd) pyrene	5.01	0.25	1.69	"	10.4	ND	48.3	10-173			
2-Methylnaphthalene	5.41	0.05	1.33	"	10.4	ND	52.2	16.6-107			
2-Methylphenol	5.55	0.43	1.28	"	10.4	ND	53.6	7.21-120			
3 & 4-Methylphenol	11.3	1.17	3.51	"	20.7	ND	54.6	8-134			
Naphthalene	4.51	0.16	1.03	"	10.4	ND	43.5	29.1-100			
Pentachlorophenol	12.4	0.07	1.04	"	10.4	ND	119	14-176			
Phenanthrene	7.38	0.15	1.24	"	10.4	1.95	52.4	40.7-100			
Pyrene	8.75	0.23	0.60	"	10.4	3.96	46.2	40.6-100			
2,4,6-Trichlorophenol	6.44	0.46	1.37	"	10.4	ND	62.1	37-144			
1-Methylnaphthalene	5.31	0.05	1.33	"	10.4	ND	51.2	18.5-100			
Surrogate: 2,4,6-Tribromophenol	*7.47*			"	*10.4*		*72.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.57*			"	*5.18*		*49.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*8.07*			"	*10.4*		*77.9*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.60*			"	*5.18*		*50.2*	*18.4-100*			
Surrogate: Phenol-d5	*2.46*			"	*10.4*		*23.7*	*10-126*			
Surrogate: Terphenyl-dl4	*1.71*			"	*5.18*		*33.0*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
Blank (2I23001-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*76.6*			"	*100*		*76.6*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*30.3*			"	*50.0*		*60.5*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.2*			"	*100*		*29.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*25.9*			"	*50.0*		*51.9*	*10-100*			
Surrogate: Phenol-d5	*22.7*			"	*100*		*22.7*	*10-112*			
Surrogate: Terphenyl-dl4	*24.3*			"	*50.0*		*48.6*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
LCS (2I23001-BS1)											
Acenaphthene	71.5	1.13	10.0	ug/L	100		71.5	36.1-108			
Acenaphthylene	69.8	1.07	10.0	"	100		69.8	34.6-109			
Anthracene	49.0	0.99	10.0	"	100		49.0	36.4-106			
Benzo (a) anthracene	65.5	0.87	10.0	"	100		65.5	42.9-101			
Benzo (b) fluoranthene	64.0	1.03	10.0	"	100		64.0	43.7-105			
Benzo (k) fluoranthene	66.1	1.01	10.0	"	100		66.1	38.1-112			
Benzo (a) pyrene	68.6	0.98	10.0	"	100		68.6	46.5-104			
Bis(2-ethylhexyl)phthalate	64.5	1.14	10.0	"	100		64.5	25.1-113			
Carbazole	42.5	0.90	10.0	"	100		42.5	5.43-162			
4-Chloro-3-methylphenol	56.3	1.04	10.0	"	100		56.3	39.1-106			
Chrysene	58.1	0.92	10.0	"	100		58.1	43.2-103			
Dibenz (a,h) anthracene	80.6	0.67	10.0	"	100		80.6	31-119			
Dibenzofuran	61.7	1.04	10.0	"	100		61.7	37.6-110			
2,4-Dimethylphenol	47.5	0.84	10.0	"	100		47.5	36-100			
2,4-Dinitrophenol	45.6	3.05	10.0	"	100		45.6	10.5-124			
Di-n-octyl phthalate	66.3	1.35	10.0	"	100		66.3	33.6-111			
Fluoranthene	92.5	0.93	10.0	"	100		92.5	26.4-121			
Fluorene	84.2	1.01	10.0	"	100		84.2	36.9-109			
Indeno (1,2,3-cd) pyrene	77.8	0.89	10.0	"	100		77.8	35.6-116			
2-Methylnaphthalene	54.6	1.12	10.0	"	100		54.6	34.3-102			
2-Methylphenol	55.0	0.88	10.0	"	100		55.0	35-101			
3 & 4-Methylphenol	121	0.87	10.0	"	200		60.4	29.4-107			
Naphthalene	50.9	1.09	10.0	"	100		50.9	36.8-100			
Pentachlorophenol	37.0	2.72	10.0	"	100		37.0	15.1-115			
Phenanthrene	55.0	0.93	10.0	"	100		55.0	36.4-110			
Pyrene	38.7	1.09	10.0	"	100		38.7	23.9-114			
2,4,6-Trichlorophenol	63.1	2.58	10.0	"	100		63.1	36-104			
Surrogate: 2,4,6-Tribromophenol	*71.5*			"	*100*		*71.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.4*			"	*50.0*		*70.9*	*16.9-105*			
Surrogate: 2-Fluorophenol	*34.2*			"	*100*		*34.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.3*			"	*50.0*		*58.6*	*10-100*			
Surrogate: Phenol-d5	*31.3*			"	*100*		*31.3*	*10-112*			
Surrogate: Terphenyl-dl4	*21.2*			"	*50.0*		*42.4*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I23001-BSD1)											
Acenaphthene	65.7	1.13	10.0	ug/L	100		65.7	36.1-108	8.44	40	
Acenaphthylene	61.4	1.07	10.0	"	100		61.4	34.6-109	12.9	40	
Anthracene	53.0	0.99	10.0	"	100		53.0	36.4-106	7.77	40	
Benzo (a) anthracene	70.4	0.87	10.0	"	100		70.4	42.9-101	7.26	40	
Benzo (b) fluoranthene	65.4	1.03	10.0	"	100		65.4	43.7-105	2.09	40	
Benzo (k) fluoranthene	58.5	1.01	10.0	"	100		58.5	38.1-112	12.2	40	
Benzo (a) pyrene	67.5	0.98	10.0	"	100		67.5	46.5-104	1.51	40	
Bis(2-ethylhexyl)phthalate	69.4	1.14	10.0	"	100		69.4	25.1-113	7.31	40	
Carbazole	38.7	0.90	10.0	"	100		38.7	5.43-162	9.21	40	
4-Chloro-3-methylphenol	68.7	1.04	10.0	"	100		68.7	39.1-106	19.9	40	
Chrysene	66.6	0.92	10.0	"	100		66.6	43.2-103	13.6	40	
Dibenz (a,h) anthracene	82.1	0.67	10.0	"	100		82.1	31-119	1.83	40	
Dibenzofuran	52.5	1.04	10.0	"	100		52.5	37.6-110	16.2	40	
2,4-Dimethylphenol	50.7	0.84	10.0	"	100		50.7	36-100	6.58	40	
2,4-Dinitrophenol	54.7	3.05	10.0	"	100		54.7	10.5-124	18.1	40	
Di-n-octyl phthalate	57.9	1.35	10.0	"	100		57.9	33.6-111	13.4	40	
Fluoranthene	98.3	0.93	10.0	"	100		98.3	26.4-121	6.12	40	
Fluorene	65.0	1.01	10.0	"	100		65.0	36.9-109	25.8	40	
Indeno (1,2,3-cd) pyrene	78.1	0.89	10.0	"	100		78.1	35.6-116	0.321	40	
2-Methylnaphthalene	65.7	1.12	10.0	"	100		65.7	34.3-102	18.4	40	
2-Methylphenol	53.9	0.88	10.0	"	100		53.9	35-101	2.13	40	
3 & 4-Methylphenol	111	0.87	10.0	"	200		55.5	29.4-107	8.36	40	
Naphthalene	53.5	1.09	10.0	"	100		53.5	36.8-100	5.06	40	
Pentachlorophenol	52.3	2.72	10.0	"	100		52.3	15.1-115	34.3	40	
Phenanthrene	55.7	0.93	10.0	"	100		55.7	36.4-110	1.30	40	
Pyrene	41.9	1.09	10.0	"	100		41.9	23.9-114	7.84	40	
2,4,6-Trichlorophenol	69.9	2.58	10.0	"	100		69.9	36-104	10.1	40	
Surrogate: 2,4,6-Tribromophenol	*72.9*			"	*100*		*72.9*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*37.6*			"	*50.0*		*75.2*	*16.9-105*			
Surrogate: 2-Fluorophenol	*33.6*			"	*100*		*33.6*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.6*			"	*50.0*		*61.3*	*10-100*			
Surrogate: Phenol-d5	*29.2*			"	*100*		*29.2*	*10-112*			
Surrogate: Terphenyl-dl4	*23.5*			"	*50.0*		*47.1*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I23001-DUP1)			**Source: 2209285-02**								
Acenaphthene	ND	1.15	10.2	ug/L		ND				45	
Acenaphthylene	ND	1.09	10.2	"		ND				45	
Anthracene	ND	1.00	10.2	"		ND				45	
Benzo (a) anthracene	ND	0.88	10.2	"		ND				45	
Benzo (b) fluoranthene	ND	1.05	10.2	"		ND				45	
Benzo (k) fluoranthene	ND	1.03	10.2	"		ND				45	CC-01
Benzo (a) pyrene	ND	0.99	10.2	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"		ND				45	
Carbazole	ND	0.91	10.2	"		ND				45	
4-Chloro-3-methylphenol	ND	1.06	10.2	"		ND				45	
Chrysene	ND	0.94	10.2	"		ND				45	
Dibenz (a,h) anthracene	ND	0.68	10.2	"		ND				45	
Dibenzofuran	ND	1.06	10.2	"		ND				45	
2,4-Dimethylphenol	ND	0.85	10.2	"		ND				45	
2,4-Dinitrophenol	ND	3.10	10.2	"		ND				45	
Di-n-octyl phthalate	ND	1.37	10.2	"		ND				45	CC-01
Fluoranthene	ND	0.95	10.2	"		ND				45	
Fluorene	ND	1.03	10.2	"		ND				45	
Indeno (1,2,3-cd) pyrene	ND	0.90	10.2	"		ND				45	
2-Methylnaphthalene	ND	1.14	10.2	"		ND				45	
2-Methylphenol	ND	0.89	10.2	"		ND				45	
3 & 4-Methylphenol	ND	0.89	10.2	"		ND				45	
Naphthalene	ND	1.11	10.2	"		ND				45	
Pentachlorophenol	ND	2.76	10.2	"		ND				45	
Phenanthrene	ND	0.94	10.2	"		ND				45	
Pyrene	ND	1.11	10.2	"		ND				45	
2,4,6-Trichlorophenol	ND	2.62	10.2	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*66.5*			*"*	*102*		*65.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*25.4*			*"*	*50.8*		*50.0*	*16.9-105*			
Surrogate: 2-Fluorophenol	*12.6*			*"*	*102*		*12.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*15.5*			*"*	*50.8*		*30.5*	*10-100*			
Surrogate: Phenol-d5	*9.90*			*"*	*102*		*9.75*	*10-112*			*SR05*
Surrogate: Terphenyl-dl4	*21.8*			*"*	*50.8*		*43.0*	*10-105*			*SR17*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I23001 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2I23001-MS1)		**Source: 2209285-02**									
Acenaphthene	63.6	1.15	10.2	ug/L	102	ND	62.7	10-121			
Acenaphthylene	60.9	1.09	10.2	"	102	ND	60.0	19-110			
Anthracene	51.1	1.00	10.2	"	102	ND	50.3	16.1-116			
Benzo (a) anthracene	68.4	0.88	10.2	"	102	ND	67.3	27.7-107			
Benzo (b) fluoranthene	67.7	1.05	10.2	"	102	ND	66.7	23.3-117			
Benzo (k) fluoranthene	61.1	1.03	10.2	"	102	ND	60.2	20.4-113			
Benzo (a) pyrene	68.1	0.99	10.2	"	102	ND	67.1	34.6-101			
Bis(2-ethylhexyl)phthalate	70.5	1.16	10.2	"	102	ND	69.5	10-108			
Carbazole	50.2	0.91	10.2	"	102	ND	49.5	10-159			
4-Chloro-3-methylphenol	60.3	1.06	10.2	"	102	ND	59.4	19.8-110			
Chrysene	64.4	0.94	10.2	"	102	ND	63.5	25.6-113			
Dibenz (a,h) anthracene	81.5	0.68	10.2	"	102	ND	80.2	15.9-129			
Dibenzofuran	54.1	1.06	10.2	"	102	ND	53.3	10-115			
2,4-Dimethylphenol	51.0	0.85	10.2	"	102	ND	50.3	17.2-115			
2,4-Dinitrophenol	47.2	3.10	10.2	"	102	ND	46.5	10-129			
Di-n-octyl phthalate	64.8	1.37	10.2	"	102	ND	63.8	21.1-102			
Fluoranthene	91.8	0.95	10.2	"	102	ND	90.4	15-119			
Fluorene	69.2	1.03	10.2	"	102	ND	68.2	10-125			
Indeno (1,2,3-cd) pyrene	78.6	0.90	10.2	"	102	ND	77.4	18.2-129			
2-Methylnaphthalene	54.6	1.14	10.2	"	102	ND	53.8	10-117			
2-Methylphenol	57.8	0.89	10.2	"	102	ND	56.9	10-106			
3 & 4-Methylphenol	120	0.89	10.2	"	203	ND	59.2	10-102			
Naphthalene	49.5	1.11	10.2	"	102	ND	48.8	19.6-98.1			
Pentachlorophenol	41.9	2.76	10.2	"	102	ND	41.3	10-125			
Phenanthrene	56.6	0.94	10.2	"	102	ND	55.7	16.9-120			
Pyrene	41.8	1.11	10.2	"	102	ND	41.2	12.3-105			
2,4,6-Trichlorophenol	60.6	2.62	10.2	"	102	ND	59.7	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*69.4*			"	*102*		*68.4*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*32.4*			"	*50.8*		*63.9*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.5*			"	*102*		*29.0*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.5*			"	*50.8*		*52.2*	*10-100*			
Surrogate: Phenol-d5	*28.5*			"	*102*		*28.1*	*10-112*			
Surrogate: Terphenyl-dl4	*21.0*			"	*50.8*		*41.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28030 - EPA 5030B											
Blank (2I28030-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*45.4*			"	*50.0*		*90.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.6*			"	*50.0*		*99.2*	*87.4-116*			
Surrogate: Toluene-d8	*49.0*			"	*50.0*		*98.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.4*			"	*50.0*		*103*	*80.4-119*			
LCS (2I28030-BS1)											
Benzene	20.7	0.258	5.00	ug/L	20.0		103	64.2-144			
Ethylbenzene	20.0	0.190	5.00	"	20.0		100	64.9-150			
Surrogate: Dibromofluoromethane	*46.9*			"	*50.0*		*93.7*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*			"	*50.0*		*95.7*	*87.4-116*			
Surrogate: Toluene-d8	*49.0*			"	*50.0*		*98.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*52.3*			"	*50.0*		*105*	*80.4-119*			
LCS Dup (2I28030-BSD1)											
Benzene	20.1	0.258	5.00	ug/L	20.0		101	64.2-144	2.65	30	
Ethylbenzene	19.7	0.190	5.00	"	20.0		98.6	64.9-150	1.41	30	
Surrogate: Dibromofluoromethane	*46.0*			"	*50.0*		*92.0*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.9*	*87.4-116*			
Surrogate: Toluene-d8	*48.2*			"	*50.0*		*96.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.1*			"	*50.0*		*102*	*80.4-119*			
Matrix Spike (2I28030-MS1)		**Source: 2209286-05**									
Benzene	24.5	0.258	5.00	ug/L	20.0	1.19	117	70-149			
Ethylbenzene	41.2	0.190	5.00	"	20.0	17.9	117	70.2-150			
Surrogate: Dibromofluoromethane	*46.7*			"	*50.0*		*93.4*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.6*			"	*50.0*		*95.2*	*87.4-116*			
Surrogate: Toluene-d8	*48.4*			"	*50.0*		*96.9*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.8*			"	*50.0*		*104*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28030 - EPA 5030B											
Matrix Spike Dup (2I28030-MSD1)		**Source: 2209286-05**									
Benzene	23.0	0.258	5.00	ug/L	20.0	1.19	109	70-149	6.44	35	
Ethylbenzene	38.3	0.190	5.00	"	20.0	17.9	102	70.2-150	7.34	35	
Surrogate: Dibromofluoromethane	*46.4*			"	*50.0*		*92.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*			"	*50.0*		*94.7*	*87.4-116*			
Surrogate: Toluene-d8	*48.2*			"	*50.0*		*96.4*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.8*			"	*50.0*		*102*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Chrysene	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:11

2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:11

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:11

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2209328

Company Name: CAVENHAM FOREST IND.
Address: P.O BOX 15369
City: HATTIESBURG State: MS Zip: 39404
Phone: 601-544-3674
Fax: 601-544-0504

Project Manager: ETHAN ALLEN
Purchase Order #:
Email Address : EALLEN@ENV-MGT.COM
Sampler Name Printed: JEFF GONSOULIN
Sampler Name Signed:

Project Name: MOBILE CFI 3RD QTR
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
X Normal
__Next Day*
__2nd Day*
__Other*_____
*All rush order requests must be prior approved.
__Phone
__Mail
__Fax
__Email
QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,CON	NITRATE	CHLORIDE	METALS	AMMONIA	BNA	VOA
Preservative:											
RC-1	9-20-22/13:35	W	11	G	X	X	X	X	X	X	X
RC-1A	9-20-22/14:00	W	7	G	X	X	X	X	X	X	X
RW-5	9-20-22/15:15	W	9	G	X	X	X	X	X	X	X
TBV# 7031	9-20-22/13:35	W	2	G							X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice: (Y) N Thermometer# 5 Cooler # Client Receipt Temp Corrected(°C) 1.2°C
Date & Time _____ By: _____ Sample____ Blank X Cooler____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	9-21-22	8:07
Received by	Sarah Tonelli	Sarah Tonelli	MM	9/21/22	0807
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

DCN F316 Rev.6
MicroMethods Laboratory
Issued/Revised 6/15/22

MICRO-METHODS LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 20, 2022

Ethan Allen

Work Order # : 2209354

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 09/22/2022 08:06. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RC-2	2209354-01	Water	09/21/2022 10:15	*Jeff Gonsoulin*	09/22/2022 08:06
Mobile/RW-3A	2209354-02	Water	09/21/2022 11:30	*Jeff Gonsoulin*	09/22/2022 08:06
Mobile/RC-3	2209354-03	Water	09/21/2022 13:10	*Jeff Gonsoulin*	09/22/2022 08:06
Mobile/T-1	2209354-04	Water	09/21/2022 13:45	*Jeff Gonsoulin*	09/22/2022 08:06
Mobile/T-2	2209354-05	Water	09/21/2022 14:30	*Jeff Gonsoulin*	09/22/2022 08:06
Mobile/E-1	2209354-06	Water	09/21/2022 15:30	*Jeff Gonsoulin*	09/22/2022 08:06
Trip Blank TBV#7030	2209354-07	Water	09/21/2022 10:15	*Micro Methods*	09/22/2022 08:06

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Sample Receipt Conditions

Date/Time Received: 9/22/2022 8:06:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 9/22/2022 9:26:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Cooler ID: client cooler #2

Receipt Temperature: 0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:05

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

REVISED REPORT-SCH 12/20/2022:
Results for EPA 8270 reported to the MDL. Results between the MDL and MRL flagged as a "J" value. False positives abvoe the MDL but below the MRL removed from reporting. Revised report issued. 8270D

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:05

Chloride-ASTM D 512-12

Qualifiers:

L1 LCS and/or LCSD Recovery Limit exceeded.

Chloride
2I30012-BSD1

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2-Methylnaphthalene, 3 & 4-Methylphenol, Fluoranthene
2209354-01[Mobile/RC-2], 2I28027-DUP1, 2209354-05[Mobile/T-2], 2I28027-BLK1, 2209354-04[Mobile/T-1]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2-Methylnaphthalene, Fluoranthene
2I28027-BS1, 2I28027-BSD1, 2I28027-MS1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 2-Methylphenol, 3 & 4-Methylphenol, Acenaphthylene, Anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Carbazole, Dibenz (a,h) anthracene, Fluoranthene, Pyrene
2209354-05[Mobile/T-2], 2209354-03[Mobile/RC-3], 2209354-01[Mobile/RC-2], 2209354-04[Mobile/T-1], 2209354-02[Mobile/ RW-3A], 2209354-06[Mobile/E-1]

L1 LCS and/or LCSD Recovery Limit exceeded.

Bis(2-ethylhexyl)phthalate, Pentachlorophenol
2I27021-BSD1, 2I27021-BS1

L3 LCS/LCSD Precision Limit exceeded.

2-Methylphenol
2I28027-BSD1

M5 Spike amounts should be in the range of 1 to 5 times the background level when a sample contains the target parameter in order to effectively evaluate spike recoveries. Batch acceptance is based on LCS/LCSD recoveries.

1-Methylnaphthalene, 2,4-Dimethylphenol, 2,4-Dinitrophenol, 2-Methylnaphthalene, Acenaphthene, Anthracene, Carbazole, Dibenzofuran, Naphthalene, Phenanthrene, Pyrene
2I27021-MS1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:05

Semi-Volatile Compounds-EPA 8270D

Qualifiers:

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorophenol

2209354-03[Mobile/RC-3]

SR05 Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.

2-Fluorophenol

2209354-01[Mobile/RC-2]

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5

2I27021-DUP1

SR08 Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates.

2-Fluorophenol, Phenol-d5

2209354-04[Mobile/T-1], 2209354-03[Mobile/RC-3]

Nitrate Nitrogen Hach-HACH 10206

Qualifiers:

HT-03 This sample was analyzed outside the recommended holding time.

Nitrate as N

2209354-05[Mobile/T-2], 2209354-06[Mobile/E-1]

HT-06 The original analysis of this sample yielded QC recoveries outside acceptance criteria. It was re-analyzed after the recommended maximum hold time for confirmation of reported results.

Nitrate as N

2209354-01[Mobile/RC-2], 2209354-02[Mobile/RW-3A], 2209354-03[Mobile/RC-3], 2209354-04[Mobile/T-1]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:05

Ammonia as N-Lachat 10-107-06-1-I

Qualifiers:

M2 MS/MSD Recovery below acceptable limit.

Analyte & Samples(s) Qualified:

2I28033-MS1, 2I28033-MSD1

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2209354-01[Mobile/RC-2], 2209354-02[Mobile/RW-3A], 2209354-03[Mobile/RC-3], 2209354-04[Mobile/T-1], 2209354-05[Mobile/T-2], 2209354-06[Mobile/E-1], 2I27028-DUP1, 2I27028-DUP2

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RC-2

2209354-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**4.91**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:27	Lachat 10-107-06-1-I	
Chloride	**104**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 13:14	ASTM D 512-12	
pH	**6.85**			pH Units	"	2I27028	CRG	09/27/2022 09:24	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	**0.83**	0.23	0.50	mg/L	"	2I22013	ASC	09/22/2022 12:08	09/22/2022 13:18	HACH 10206	HT-06
Specific Conductance (EC)	**956**			umhos/cm @25.0 C	"	2I30010	JBM	09/30/2022 11:14	09/30/2022 11:21	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I26023	GWG	09/26/2022 09:15	09/29/2022 13:22	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00104**	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.18	10.4	ug/L	1.0	2I28027	CRLV	09/28/2022 08:21	09/30/2022 00:24	EPA 8270D	
Acenaphthylene	ND	1.11	10.4	"	"	"	CRLV	"	"	"	
Anthracene	**2.74**	1.03	10.4	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.91	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.07	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**2.10**	1.05	10.4	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	ND	1.02	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.4	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.93	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.08	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.96	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.70	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.08	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.88	10.4	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.18	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.41	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.97	10.4	"	"	"	CRLV	"	"	"	CC-01
Fluorene	ND	1.05	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.17	10.4	"	"	"	CRLV	"	"	"	CC-01
2-Methylphenol	ND	0.92	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.91	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.14	10.4	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RC-2

2209354-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Pentachlorophenol	ND	2.83	10.4	"	1.0	2I28027	CRLV	09/28/2022 08:21	"	"	
Phenanthrene	**57.7**	0.97	10.4	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.14	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.69	10.4	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	55.8	*53.5 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	31.0	*59.5 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	9.95	*9.55 %*	*10-100*	"	CRLV	"	"	"	*SR05*
Nitrobenzene-d5	16.0	*30.7 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	11.6	*11.1 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	21.6	*41.5 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/28/2022 00:17	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.5	*89.0 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.6	*97.3 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	46.7	*93.5 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.8	*104 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RW-3A

2209354-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**3.16**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:34	Lachat 10-107-06-1-I	
Chloride	**77.0**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 13:14	ASTM D 512-12	
pH	**6.78**			pH Units	"	2I27028	CRG	09/27/2022 09:31	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I22013	ASC	09/22/2022 12:08	09/22/2022 13:18	HACH 10206	HT-06
Specific Conductance (EC)	**726**			umhos/cm @25.0 C	"	2I30010	JBM	09/30/2022 11:14	09/30/2022 11:21	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I26023	GWG	09/26/2022 09:15	09/29/2022 13:26	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RW-3A

2209354-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**376**	1.68	11.1	ug/L	10.0	2I27021	CRLV	09/27/2022 07:55	09/29/2022 22:01	EPA 8270D	
Acenaphthylene	**4.06**	0.11	1.19	"	1.0	"	CRLV	"	09/29/2022 00:18	"	
Anthracene	**20.0**	0.13	1.32	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**1.61**	0.19	0.94	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.90**	0.19	0.82	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.19**	0.18	0.21	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	**0.55**	0.21	0.51	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	"	"	"	CRLV	"	"	"	
Carbazole	**657**	269	605	"	100.0	"	CRLV	"	10/03/2022 16:11	"	
4-Chloro-3-methylphenol	ND	2.81	16.9	"	10.0	"	CRLV	"	09/29/2022 22:01	"	
Chrysene	**1.29**	0.16	0.91	"	1.0	"	CRLV	"	09/29/2022 00:18	"	
Dibenz (a,h) anthracene	**0.33**	0.26	0.31	"	"	"	CRLV	"	"	"	
Dibenzofuran	**207**	4.09	12.3	"	10.0	"	CRLV	"	09/29/2022 22:01	"	
2,4-Dimethylphenol	**114**	1.95	10.8	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.32	4.43	"	1.0	"	CRLV	"	09/29/2022 00:18	"	
Di-n-octyl phthalate	ND	0.30	1.74	"	"	"	CRLV	"	"	"	
Fluoranthene	**33.2**	2.07	15.4	"	10.0	"	CRLV	"	09/29/2022 22:01	"	
Fluorene	**213**	1.64	12.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.43**	0.25	0.41	"	1.0	"	CRLV	"	09/29/2022 00:18	"	
2-Methylnaphthalene	**380**	0.51	13.1	"	10.0	"	CRLV	"	09/29/2022 22:01	"	
2-Methylphenol	**15.8**	0.42	1.27	"	1.0	"	CRLV	"	09/29/2022 00:18	"	
3 & 4-Methylphenol	**16.5**	1.16	3.48	"	"	"	CRLV	"	"	"	
Naphthalene	**4140**	15.8	102	"	100.0	"	CRLV	"	10/03/2022 16:11	"	
Pentachlorophenol	ND	0.07	1.03	"	1.0	"	CRLV	"	09/29/2022 00:18	"	
Phenanthrene	**222**	1.50	12.3	"	10.0	"	CRLV	"	09/29/2022 22:01	"	
Pyrene	**17.1**	0.23	0.59	"	1.0	"	CRLV	"	09/29/2022 00:18	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	
1-Methylnaphthalene	**245**	0.51	13.1	"	10.0	"	CRLV	"	09/29/2022 22:01	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RW-3A

2209354-02 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Surrogate	*Result*	*% Rec*	*Rec Limits*			*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	9.11	*88.8 %*	*0-200*			*2I27021*	CRLV	*09/27/2022 07:55*	*09/29/2022 00:18*	"	
2-Fluorobiphenyl	2.79	*54.4 %*	*21.3-100*			"	CRLV	"	"	"	
2-Fluorophenol	9.68	*94.4 %*	*0-200*			"	CRLV	"	"	"	
Nitrobenzene-d5	3.28	*64.0 %*	*18.4-100*			"	CRLV	"	*09/29/2022 22:01*	"	
Phenol-d5	4.32	*42.1 %*	*10-126*			"	CRLV	"	*09/29/2022 00:18*	"	
Terphenyl-dl4	2.51	*49.0 %*	*28.8-100*			"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	**6.91**	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/28/2022 00:40	EPA 8260D	
Ethylbenzene	**26.3**	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	*Result*	*% Rec*	*Rec Limits*			*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	43.3	*86.6 %*	*83.9-122*			"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.6	*95.1 %*	*87.4-116*			"	BSF	"	"	"	
Toluene-d8	47.7	*95.5 %*	*81.4-118*			"	BSF	"	"	"	
4-Bromofluorobenzene	54.2	*108 %*	*80.4-119*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RC-3

2209354-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**11.6**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:35	Lachat 10-107-06-1-I	
Chloride	**266**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 13:14	ASTM D 512-12	
pH	**6.33**			pH Units	"	2I27028	CRG	09/27/2022 09:37	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	**2.53**	1.15	2.50	mg/L	5.0	2I22013	ASC	09/22/2022 12:08	09/22/2022 13:18	HACH 10206	HT-06
Specific Conductance (EC)	**1190**			umhos/cm @25.0 C	1.0	2I30010	JBM	09/30/2022 11:14	09/30/2022 11:21	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I26023	GWG	09/26/2022 09:15	09/29/2022 13:31	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	**0.00148**	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RC-3

2209354-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**57200**	1360	12000	ug/L	1000.0	2I28027	CRLV	09/28/2022 08:21	09/30/2022 09:33	EPA 8270D	
Acenaphthylene	**216**	12.9	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	
Anthracene	**1030**	11.9	120	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**1740**	10.5	120	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**6660**	124	1200	"	100.0	"	CRLV	"	09/30/2022 11:16	"	
Benzo (k) fluoranthene	**3090**	122	1200	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**4290**	118	1200	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	13.7	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	
Carbazole	**6820**	108	1200	"	100.0	"	CRLV	"	09/30/2022 11:16	"	
4-Chloro-3-methylphenol	ND	12.5	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	
Chrysene	**1060**	11.1	120	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**311**	8.06	120	"	"	"	CRLV	"	"	"	
Dibenzofuran	**14400**	125	1200	"	100.0	"	CRLV	"	09/30/2022 11:16	"	
2,4-Dimethylphenol	ND	10.1	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	
2,4-Dinitrophenol	ND	36.7	120	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	16.3	120	"	"	"	CRLV	"	"	"	
Fluoranthene	**120000**	1120	12000	"	1000.0	"	CRLV	"	10/04/2022 12:14	"	
Fluorene	**65400**	1220	12000	"	"	"	CRLV	"	09/30/2022 09:33	"	
Indeno (1,2,3-cd) pyrene	**806**	10.7	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	
2-Methylnaphthalene	**46600**	1350	12000	"	1000.0	"	CRLV	"	09/30/2022 09:33	"	
2-Methylphenol	**116**	10.6	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	J
3 & 4-Methylphenol	**28.9**	10.5	120	"	"	"	CRLV	"	"	"	J
Naphthalene	**80100**	1310	12000	"	1000.0	"	CRLV	"	09/30/2022 09:33	"	
Pentachlorophenol	ND	32.8	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	
Phenanthrene	**97000**	1120	12000	"	1000.0	"	CRLV	"	09/30/2022 09:33	"	
Pyrene	**511**	13.1	120	"	10.0	"	CRLV	"	09/30/2022 12:58	"	
2,4,6-Trichlorophenol	ND	31.1	120	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/RC-3

2209354-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	72.0	*68.8 %*	*16.7-116*			*2I28027*	CRLV	*09/28/2022 08:21*	"	"	
2-Fluorobiphenyl	30.6	*58.4 %*	*16.9-105*			"	CRLV	"	"	"	
2-Fluorophenol	1.32	*1.27 %*	*10-100*			"	CRLV	"	"	"	*SR01*
Nitrobenzene-d5	17.8	*34.0 %*	*10-100*			"	CRLV	"	"	"	
Phenol-d5	0.241	*0.230 %*	*10-112*			"	CRLV	"	"	"	*SR08*
Terphenyl-dl4	19.1	*36.6 %*	*10-105*			"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

Benzene	**19.3**	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/28/2022 01:04	EPA 8260D	
Ethylbenzene	**50.3**	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	42.9	*85.8 %*	*83.9-122*			"	BSF	"	"	"	
1,2-Dichloroethane-d4	45.6	*91.1 %*	*87.4-116*			"	BSF	"	"	"	
Toluene-d8	47.9	*95.8 %*	*81.4-118*			"	BSF	"	"	"	
4-Bromofluorobenzene	53.2	*106 %*	*80.4-119*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/T-1

2209354-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**0.45**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:37	Lachat 10-107-06-1-I	
Chloride	**5.49**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 13:14	ASTM D 512-12	
pH	**7.49**			pH Units	"	2I27028	CRG	09/27/2022 09:40	09/27/2022 09:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**224**			umhos/cm @25.0 C	"	2I30010	JBM	09/30/2022 11:14	09/30/2022 11:21	SM 2510 B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I22013	ASC	09/22/2022 12:08	09/22/2022 13:18	HACH 10206	HT-06
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I26023	GWG	09/26/2022 09:15	09/29/2022 13:35	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/T-1

2209354-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.16	10.3	ug/L	1.0	2I28027	CRLV	09/28/2022 08:21	09/30/2022 07:50	EPA 8270D	
Acenaphthylene	ND	1.10	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.02	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**1.96**	1.06	10.3	"	"	"	CRLV	"	"	"	J
Benzo (k) fluoranthene	**5.34**	1.04	10.3	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	**1.26**	1.01	10.3	"	"	"	CRLV	"	"	"	J
Bis(2-ethylhexyl)phthalate	ND	1.18	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.92	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.95	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.87	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.14	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.39	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**8.21**	0.96	10.3	"	"	"	CRLV	"	"	"	CC-01, J
Fluorene	ND	1.04	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.15	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.91	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.80	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.96	10.3	"	"	"	CRLV	"	"	"	
Pyrene	**8.80**	1.12	10.3	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.66	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	32.5	*31.5 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	16.2	*31.4 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	10.3	*9.99 %*	*10-100*	"	CRLV	"	"	"	*SR08*
Nitrobenzene-d5	9.96	*19.3 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	8.93	*8.66 %*	*10-112*	"	CRLV	"	"	"	*SR08*
Terphenyl-dl4	12.2	*23.6 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/28/2022 01:27	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:05

Mobile/T-1

2209354-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	42.5	*85.1 %*	*83.9-122*	*2I28030*	BSF	*09/27/2022 08:00*	"	"	
1,2-Dichloroethane-d4	44.5	*88.9 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	47.7	*95.4 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.0	*102 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/T-2

2209354-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**7.77**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:38	Lachat 10-107-06-1-I	
Chloride	**88.0**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 13:14	ASTM D 512-12	
pH	**6.61**			pH Units	"	2I27028	CRG	09/27/2022 09:43	09/27/2022 09:55	SM 4500-H+B-2011	
Nitrate as N	ND	0.23	0.50	mg/L	"	2I26020	DLW	09/26/2022 08:20	09/26/2022 09:20	HACH 10206	HT-03
Specific Conductance (EC)	**1110**			umhos/cm @25.0 C	"	2I30010	JBM	09/30/2022 11:14	09/30/2022 11:21	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I26023	GWG	09/26/2022 09:15	09/29/2022 13:48	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/T-2

2209354-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**446**	11.6	103	ug/L	10.0	2I28027	CRLV	09/28/2022 08:21	10/03/2022 23:39	EPA 8270D	
Acenaphthylene	**4.83**	1.10	10.3	"	1.0	"	CRLV	"	10/05/2022 21:16	"	J
Anthracene	**37.1**	1.01	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**111**	0.89	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**43.6**	1.06	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**20.5**	1.04	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**34.2**	1.00	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.17	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**100**	0.92	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
Chrysene	**116**	0.95	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**5.07**	0.69	10.3	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**208**	10.7	103	"	10.0	"	CRLV	"	10/03/2022 23:39	"	
2,4-Dimethylphenol	**9.94**	0.86	10.3	"	1.0	"	CRLV	"	10/05/2022 21:16	"	J
2,4-Dinitrophenol	ND	3.13	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.38	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**721**	9.58	103	"	10.0	"	CRLV	"	10/03/2022 23:39	"	
Fluorene	**314**	10.4	103	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**13.1**	0.91	10.3	"	1.0	"	CRLV	"	10/05/2022 21:16	"	
2-Methylnaphthalene	**167**	11.5	103	"	10.0	"	CRLV	"	10/03/2022 23:39	"	
2-Methylphenol	ND	0.90	10.3	"	1.0	"	CRLV	"	10/05/2022 21:16	"	
3 & 4-Methylphenol	ND	0.89	10.3	"	"	"	CRLV	"	"	"	CC-01
Naphthalene	**197**	11.2	103	"	10.0	"	CRLV	"	10/03/2022 23:39	"	
Pentachlorophenol	ND	2.79	10.3	"	1.0	"	CRLV	"	10/05/2022 21:16	"	
Phenanthrene	**641**	9.52	103	"	10.0	"	CRLV	"	10/03/2022 23:39	"	
Pyrene	**309**	11.2	103	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.65	10.3	"	1.0	"	CRLV	"	10/05/2022 21:16	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	45.0	*43.9 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	20.0	*39.0 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	16.2	*15.8 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	17.6	*34.3 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	13.5	*13.1 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	29.0	*56.5 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:05

Mobile/T-2

2209354-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**7.10**	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/28/2022 01:51	EPA 8260D	
Ethylbenzene	**30.1**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	43.6	*87.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	44.8	*89.7 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.7	*97.4 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.9	*106 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/E-1

2209354-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Ammonia as N	**18.5**	0.03	0.21	mg/L	1.0	2I28033	CRG	09/27/2022 15:30	09/28/2022 10:39	Lachat 10-107-06-1-I	
Chloride	**574**	0.04	0.50	"	"	2I30012	DLW	09/30/2022 09:30	09/30/2022 13:14	ASTM D 512-12	
pH	**6.77**			pH Units	"	2I27028	CRG	09/27/2022 09:46	09/27/2022 09:55	SM 4500-H+B-2011	
Specific Conductance (EC)	**1990**			umhos/cm @25.0 C	"	2I30010	JBM	09/30/2022 11:14	09/30/2022 11:21	SM 2510 B-2011	
Nitrate as N	**1.55**	0.23	0.50	mg/L	"	2I26020	DLW	09/26/2022 08:20	09/26/2022 09:20	HACH 10206	HT-03
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00049	0.00200	mg/L	1.0	2I26023	GWG	09/26/2022 09:15	09/29/2022 13:53	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00473**	0.00011	0.00100	"	"	"	GWG	"	"	"	
Lead [He]	ND	0.00039	0.00100	"	"	"	GWG	"	"	"	
Nickel [He]	ND	0.00038	0.0400	"	"	"	GWG	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/E-1

2209354-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**257**	1.71	11.3	ug/L	10.0	2I27021	CRLV	09/27/2022 07:55	09/29/2022 21:22	EPA 8270D	
Acenaphthylene	**3.97**	0.12	1.21	"	1.0	"	CRLV	"	09/29/2022 00:57	"	
Anthracene	**11.8**	0.13	1.34	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**14.7**	0.19	0.96	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**9.19**	0.19	1.49	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**2.89**	0.18	0.89	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**6.75**	0.21	1.30	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**6.61**	0.38	1.13	"	"	"	CRLV	"	"	"	
Carbazole	**4.10**	2.73	8.19	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	0.29	1.72	"	"	"	CRLV	"	"	"	
Chrysene	**14.5**	0.16	0.93	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**0.74**	0.26	0.73	"	"	"	CRLV	"	"	"	
Dibenzofuran	**81.5**	4.16	12.5	"	10.0	"	CRLV	"	09/29/2022 21:22	"	
2,4-Dimethylphenol	ND	0.20	1.09	"	1.0	"	CRLV	"	09/29/2022 00:57	"	
2,4-Dinitrophenol	ND	1.34	4.50	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.77	"	"	"	CRLV	"	"	"	
Fluoranthene	**96.3**	2.10	15.6	"	10.0	"	CRLV	"	09/29/2022 21:22	"	
Fluorene	**72.1**	1.67	12.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**2.31**	0.26	1.70	"	1.0	"	CRLV	"	09/29/2022 00:57	"	
2-Methylnaphthalene	**83.2**	0.52	13.3	"	10.0	"	CRLV	"	09/29/2022 21:22	"	
2-Methylphenol	ND	0.43	1.29	"	1.0	"	CRLV	"	09/29/2022 00:57	"	
3 & 4-Methylphenol	ND	1.18	3.53	"	"	"	CRLV	"	"	"	
Naphthalene	**15.2**	0.16	1.03	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.04	"	"	"	CRLV	"	"	"	
Phenanthrene	**20.2**	0.15	1.25	"	"	"	CRLV	"	"	"	
Pyrene	**40.6**	2.29	6.04	"	10.0	"	CRLV	"	09/29/2022 21:22	"	
2,4,6-Trichlorophenol	ND	0.46	1.38	"	1.0	"	CRLV	"	09/29/2022 00:57	"	
1-Methylnaphthalene	**120**	0.52	13.3	"	10.0	"	CRLV	"	09/29/2022 21:22	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Mobile/E-1

2209354-06 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
2,4,6-Tribromophenol	10.2			*97.5 %*		*0-200*	*2I27021*	CRLV	*09/27/2022 07:55*	*09/29/2022 00:57*	"
2-Fluorobiphenyl	3.45			*66.2 %*		*21.3-100*	"	CRLV	"	"	"
2-Fluorophenol	7.88			*75.6 %*		*0-200*	"	CRLV	"	"	"
Nitrobenzene-d5	3.33			*64.0 %*		*18.4-100*	"	CRLV	"	"	"
Phenol-d5	3.71			*35.6 %*		*10-126*	"	CRLV	"	"	"
Terphenyl-dl4	2.60			*50.0 %*		*28.8-100*	"	CRLV	"	"	"

Volatile Organic Compounds by EPA Method 8260D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Benzene	**8.60**	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/28/2022 02:14	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	Result	% Rec	Rec Limits	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Dibromofluoromethane	43.2	*86.4 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.0	*94.0 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.0	*96.0 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	52.5	*105 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Trip Blank TBV#7030

2209354-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	2I28030	BSF	09/27/2022 08:00	09/28/2022 02:37	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.1	*88.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.2	*94.4 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	48.2	*96.3 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.9	*104 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I22013 - Default Prep GenChem											
Blank (2I22013-BLK1)											
Nitrate as N	ND	0.23	0.50	mg/L							
LCS (2I22013-BS1)											
Nitrate as N	10.4	0.23	0.50	mg/L	10.0		104	70-130			
Duplicate (2I22013-DUP1)			**Source: 2209354-01**								
Nitrate as N	0.79	0.23	0.50	mg/L		0.83			4.69	20	
Batch 2I26020 - Default Prep GenChem											
Blank (2I26020-BLK1)											
Nitrate as N	ND	0.23	0.50	mg/L							
LCS (2I26020-BS1)											
Nitrate as N	10.7	0.23	0.50	mg/L	10.0		107	70-130			
Duplicate (2I26020-DUP1)			**Source: 2209354-05**								
Nitrate as N	0.44	0.23	0.50	mg/L		0.43			1.60	20	
Duplicate (2I26020-DUP2)			**Source: 2209361-02**								
Nitrate as N	3.41	0.23	0.50	mg/L		3.69			7.89	20	
Matrix Spike (2I26020-MS1)			**Source: 2209354-05**								
Nitrate as N	6.56	0.23	0.50	mg/L	6.00	0.43	102	70-130			
Matrix Spike (2I26020-MS2)			**Source: 2209361-02**								
Nitrate as N	9.03	0.23	0.50	mg/L	6.00	3.69	89.0	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I26020 - Default Prep GenChem											
Matrix Spike Dup (2I26020-MSD1)			**Source: 2209354-05**								
Nitrate as N	6.51	0.23	0.50	mg/L	6.00	0.43	101	70-130	0.765	30	
Matrix Spike Dup (2I26020-MSD2)			**Source: 2209361-02**								
Nitrate as N	9.01	0.23	0.50	mg/L	6.00	3.69	88.7	70-130	0.222	30	
Batch 2I27028 - Default Prep GenChem											
Duplicate (2I27028-DUP1)			**Source: 2209286-02**								**HT-02**
pH	6.73			pH Units		6.75			0.297	5	
Duplicate (2I27028-DUP2)			**Source: 2209354-02**								**HT-02**
pH	6.76			pH Units		6.78			0.295	5	
Batch 2I28033 - Default Prep GenChem											
Blank (2I28033-BLK1)											
Ammonia as N	ND	0.03	0.21	mg/L							
LCS (2I28033-BS1)											
Ammonia as N	4.63	0.03	0.21	mg/L	5.00		92.6	90-110			
LCS Dup (2I28033-BSD1)											
Ammonia as N	4.54	0.03	0.21	mg/L	5.00		90.8	90-110	1.96	10	
Duplicate (2I28033-DUP1)			**Source: 2209354-03**								
Ammonia as N	11.6	0.03	0.21	mg/L		11.6			0.00	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28033 - Default Prep GenChem											
Matrix Spike (2I28033-MS1)			**Source: 2209306-01**								**M2**
Ammonia as N	4.55	0.03	0.21	mg/L	5.00	0.07	89.6	90-110			
Matrix Spike Dup (2I28033-MSD1)			**Source: 2209306-01**								**M2**
Ammonia as N	4.43	0.03	0.21	mg/L	5.00	0.07	87.2	90-110	2.67	10	
Batch 2I30010 - Default Prep GenChem											
LCS (2I30010-BS1)											
Specific Conductance (EC)	1430			uS/cm	1410		101	90-110			
LCS (2I30010-BS2)											
Specific Conductance (EC)	1090			uS/cm	1000		108	90-110			
Duplicate (2I30010-DUP1)			**Source: 2209357-04**								
Specific Conductance (EC)	990			umhos/cm @25.0 C		986			0.405	10	
Batch 2I30012 - Default Prep GenChem											
LCS (2I30012-BS1)											
Chloride	19.2	0.04	0.50	mg/L	20.0		96.0	86.3-109			
LCS Dup (2I30012-BSD1)											
Chloride	21.9	0.04	0.50	mg/L	20.0		110	86.3-109	13.1	20	L1
Duplicate (2I30012-DUP1)			**Source: 2209286-01**								
Chloride	38.0	0.04	0.50	mg/L		38.0			0.00	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I30012 - Default Prep GenChem											
Duplicate (2I30012-DUP2)			**Source: 2209357-06**								
Chloride	13.7	0.04	0.50	mg/L		13.7			0.00	15	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I26023 - EPA 200.2 DCN 1017 Rev 10											
Blank (2I26023-BLK1)											
Arsenic [He]	ND	0.00049	0.00200	mg/L							
Chromium [He]	ND	0.00011	0.00100	"							
Lead [He]	ND	0.00039	0.00100	"							
Nickel [He]	ND	0.00038	0.0400	"							
LCS (2I26023-BS1)											
Arsenic [He]	0.104	0.00049	0.00200	mg/L	0.100		104	85-115			
Chromium [He]	0.105	0.00011	0.00100	"	0.100		105	85-115			
Lead [He]	0.104	0.00039	0.00100	"	0.100		104	85-115			
Nickel [He]	0.105	0.00038	0.0400	"	0.100		105	85-115			
LCS Dup (2I26023-BSD1)											
Arsenic [He]	0.103	0.00049	0.00200	mg/L	0.100		103	85-115	1.56	20	
Chromium [He]	0.104	0.00011	0.00100	"	0.100		104	85-115	0.583	20	
Lead [He]	0.102	0.00039	0.00100	"	0.100		102	85-115	1.97	20	
Nickel [He]	0.104	0.00038	0.0400	"	0.100		104	85-115	1.54	20	
Matrix Spike (2I26023-MS1)			**Source: 2209354-04**								
Arsenic [He]	0.103	0.00049	0.00200	mg/L	0.100	0.0008	102	70-130			
Chromium [He]	0.102	0.00011	0.00100	"	0.100	0.0002	102	70-130			
Lead [He]	0.102	0.00039	0.00100	"	0.100	ND	102	70-130			
Nickel [He]	0.100	0.00038	0.0400	"	0.100	ND	100	70-130			
Matrix Spike Dup (2I26023-MSD1)			**Source: 2209354-04**								
Arsenic [He]	0.105	0.00049	0.00200	mg/L	0.100	0.0008	104	70-130	2.03	20	
Chromium [He]	0.107	0.00011	0.00100	"	0.100	0.0002	107	70-130	4.41	20	
Lead [He]	0.105	0.00039	0.00100	"	0.100	ND	105	70-130	2.42	20	
Nickel [He]	0.103	0.00038	0.0400	"	0.100	ND	103	70-130	2.62	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I27021 - EPA 3510C DCN 4000 Rev 12											
Blank (2I27021-BLK1)											
Acenaphthene	ND	0.16	1.08	ug/L							
Acenaphthylene	ND	0.11	1.16	"							
Anthracene	ND	0.13	1.29	"							
Benzo (a) anthracene	ND	0.18	0.92	"							
Benzo (b) fluoranthene	ND	0.18	1.43	"							
Benzo (k) fluoranthene	ND	0.17	0.85	"							
Benzo (a) pyrene	ND	0.20	1.25	"							
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	"							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Chrysene	ND	0.15	0.89	"							
Dibenz (a,h) anthracene	ND	0.25	1.78	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							
Di-n-octyl phthalate	ND	0.29	1.70	"							
Fluoranthene	ND	0.20	1.50	"							
Fluorene	ND	0.16	1.19	"							
Indeno (1,2,3-cd) pyrene	ND	0.25	1.63	"							
2-Methylnaphthalene	ND	0.05	1.28	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Naphthalene	ND	0.15	0.99	"							
Pentachlorophenol	ND	0.06	1.00	"							
Phenanthrene	ND	0.15	1.20	"							
Pyrene	ND	0.22	0.58	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
1-Methylnaphthalene	ND	0.05	1.28	"							
Surrogate: 2,4,6-Tribromophenol	*5.37*			"	*10.0*		*53.7*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.38*			"	*5.00*		*47.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*0.540*			"	*10.0*		*5.40*	*0-200*			
Surrogate: Nitrobenzene-d5	*1.23*			"	*5.00*		*24.6*	*18.4-100*			
Surrogate: Phenol-d5	*1.45*			"	*10.0*		*14.5*	*10-126*			
Surrogate: Terphenyl-dl4	*2.33*			"	*5.00*		*46.6*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I27021 - EPA 3510C DCN 4000 Rev 12											
LCS (2I27021-BS1)											
Acenaphthene	6.37	0.16	1.08	ug/L	10.0		63.7	21.2-115			
Acenaphthylene	6.37	0.11	1.16	"	10.0		63.7	17.4-116			
Anthracene	8.32	0.13	1.29	"	10.0		83.2	19.4-120			
Benzo (a) anthracene	7.39	0.18	0.92	"	10.0		73.9	31.6-117			
Benzo (b) fluoranthene	7.16	0.18	1.43	"	10.0		71.6	24.6-128			
Benzo (k) fluoranthene	5.44	0.17	0.85	"	10.0		54.4	19.5-128			
Benzo (a) pyrene	6.76	0.20	1.25	"	10.0		67.6	34.2-116			
Bis(2-ethylhexyl)phthalate	10.6	0.37	1.08	"	10.0		106	42.2-107			
Carbazole	8.12	2.62	7.86	"	10.0		81.2	30.1-145			
4-Chloro-3-methylphenol	8.55	0.27	1.65	"	10.0		85.5	43.1-105			
Chrysene	7.70	0.15	0.89	"	10.0		77.0	42.1-106			
Dibenz (a,h) anthracene	10.1	0.25	1.78	"	10.0		101	23.1-136			
Dibenzofuran	6.60	0.40	1.20	"	10.0		66.0	25-127			
2,4-Dimethylphenol	9.15	0.19	1.05	"	10.0		91.5	31.6-95.8			
2,4-Dinitrophenol	7.05	1.29	4.32	"	10.0		70.5	22.1-108			
Di-n-octyl phthalate	9.14	0.29	1.70	"	10.0		91.4	42.9-108			
Fluoranthene	7.98	0.20	1.50	"	10.0		79.8	47.7-104			
Fluorene	6.94	0.16	1.19	"	10.0		69.4	49.1-98.2			
Indeno (1,2,3-cd) pyrene	6.67	0.25	1.63	"	10.0		66.7	27.8-136			
2-Methylnaphthalene	6.11	0.05	1.28	"	10.0		61.1	22.3-108			
2-Methylphenol	8.33	0.41	1.24	"	10.0		83.3	15.8-123			
3 & 4-Methylphenol	14.5	1.13	3.39	"	20.0		72.5	11.1-130			
Naphthalene	5.86	0.15	0.99	"	10.0		58.6	22.1-109			
Pentachlorophenol	14.1	0.06	1.00	"	10.0		141	28.8-111			L1
Phenanthrene	7.91	0.15	1.20	"	10.0		79.1	22.1-115			
Pyrene	8.02	0.22	0.58	"	10.0		80.2	19-108			
2,4,6-Trichlorophenol	7.59	0.44	1.32	"	10.0		75.9	44.4-104			
1-Methylnaphthalene	5.83	0.05	1.28	"	10.0		58.3	23.7-97.4			
Surrogate: 2,4,6-Tribromophenol	*8.71*			"	*10.0*		*87.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.19*			"	*5.00*		*63.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*9.27*			"	*10.0*		*92.7*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.41*			"	*5.00*		*68.2*	*18.4-100*			
Surrogate: Phenol-d5	*3.47*			"	*10.0*		*34.7*	*10-126*			
Surrogate: Terphenyl-dl4	*2.74*			"	*5.00*		*54.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I27021 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I27021-BSD1)											
Acenaphthene	6.40	0.16	1.08	ug/L	10.0		64.0	21.2-115	0.470	48	
Acenaphthylene	6.31	0.11	1.16	"	10.0		63.1	17.4-116	0.946	74	
Anthracene	8.27	0.13	1.29	"	10.0		82.7	19.4-120	0.603	66	
Benzo (a) anthracene	8.03	0.18	0.92	"	10.0		80.3	31.6-117	8.30	53	
Benzo (b) fluoranthene	7.16	0.18	1.43	"	10.0		71.6	24.6-128	0.00	71	
Benzo (k) fluoranthene	5.88	0.17	0.85	"	10.0		58.8	19.5-128	7.77	63	
Benzo (a) pyrene	7.38	0.20	1.25	"	10.0		73.8	34.2-116	8.77	72	
Bis(2-ethylhexyl)phthalate	11.1	0.37	1.08	"	10.0		111	42.2-107	3.97	82	L1
Carbazole	8.80	2.62	7.86	"	10.0		88.0	30.1-145	8.04	40	
4-Chloro-3-methylphenol	8.17	0.27	1.65	"	10.0		81.7	43.1-105	4.55	73	
Chrysene	8.10	0.15	0.89	"	10.0		81.0	42.1-106	5.06	87	
Dibenz (a,h) anthracene	9.90	0.25	1.78	"	10.0		99.0	23.1-136	2.10	126	
Dibenzofuran	6.66	0.40	1.20	"	10.0		66.6	25-127	0.905	40	
2,4-Dimethylphenol	8.35	0.19	1.05	"	10.0		83.5	31.6-95.8	9.14	58	
2,4-Dinitrophenol	7.20	1.29	4.32	"	10.0		72.0	22.1-108	2.11	132	
Di-n-octyl phthalate	9.49	0.29	1.70	"	10.0		94.9	42.9-108	3.76	69	
Fluoranthene	8.34	0.20	1.50	"	10.0		83.4	47.7-104	4.41	66	
Fluorene	6.96	0.16	1.19	"	10.0		69.6	49.1-98.2	0.288	38	
Indeno (1,2,3-cd) pyrene	8.06	0.25	1.63	"	10.0		80.6	27.8-136	18.9	99	
2-Methylnaphthalene	5.73	0.05	1.28	"	10.0		57.3	22.3-108	6.42	40	
2-Methylphenol	7.32	0.41	1.24	"	10.0		73.2	15.8-123	12.9	40	
3 & 4-Methylphenol	12.3	1.13	3.39	"	20.0		61.6	11.1-130	16.3	40	
Naphthalene	5.39	0.15	0.99	"	10.0		53.9	22.1-109	8.36	65	
Pentachlorophenol	13.6	0.06	1.00	"	10.0		136	28.8-111	3.32	86	L1
Phenanthrene	7.82	0.15	1.20	"	10.0		78.2	22.1-115	1.14	39	
Pyrene	8.49	0.22	0.58	"	10.0		84.9	19-108	5.69	49	
2,4,6-Trichlorophenol	7.52	0.44	1.32	"	10.0		75.2	44.4-104	0.927	58	
1-Methylnaphthalene	5.45	0.05	1.28	"	10.0		54.5	23.7-97.4	6.74	40	
Surrogate: 2,4,6-Tribromophenol	*8.27*			"	*10.0*		*82.7*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.89*			"	*5.00*		*57.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*7.65*			"	*10.0*		*76.5*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.82*			"	*5.00*		*56.4*	*18.4-100*			
Surrogate: Phenol-d5	*2.92*			"	*10.0*		*29.2*	*10-126*			
Surrogate: Terphenyl-dl4	*2.72*			"	*5.00*		*54.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I27021 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I27021-DUP1)			**Source: 2209354-02**								
Acenaphthene	397	1.70	11.2	ug/L		376			5.33	45	
Acenaphthylene	3.76	0.12	1.20	"		4.06			7.67	45	
Anthracene	19.2	0.13	1.34	"		20.0			4.44	45	
Benzo (a) anthracene	1.80	0.19	0.95	"		1.61			11.3	45	
Benzo (b) fluoranthene	1.02	0.19	0.83	"		0.90			11.8	45	
Benzo (k) fluoranthene	0.28	0.18	0.21	"		0.19			35.8	45	
Benzo (a) pyrene	0.74	0.21	0.52	"		0.55			28.2	45	
Bis(2-ethylhexyl)phthalate	ND	0.38	1.12	"		ND				45	
Carbazole	611	272	611	"		657			7.26	45	
4-Chloro-3-methylphenol	ND	0.28	1.71	"		ND				45	
Chrysene	1.45	0.16	0.92	"		1.29			11.6	45	
Dibenz (a,h) anthracene	0.37	0.26	0.31	"		0.33			12.8	45	
Dibenzofuran	214	4.13	12.4	"		207			3.48	45	
2,4-Dimethylphenol	117	1.97	10.9	"		114			2.81	45	
2,4-Dinitrophenol	ND	1.34	4.48	"		ND				45	
Di-n-octyl phthalate	ND	0.30	1.76	"		ND				45	
Fluoranthene	36.3	2.09	15.5	"		33.2			8.74	45	
Fluorene	224	1.66	12.3	"		213			4.99	45	
Indeno (1,2,3-cd) pyrene	0.58	0.25	0.52	"		0.43			29.6	45	
2-Methylnaphthalene	395	0.52	13.3	"		380			3.88	45	
2-Methylphenol	15.5	0.43	1.28	"		15.8			2.13	45	
3 & 4-Methylphenol	15.8	1.17	3.51	"		16.5			4.78	45	
Naphthalene	4280	16.0	103	"		4140			3.36	45	
Pentachlorophenol	ND	0.07	1.04	"		ND				45	
Phenanthrene	236	1.51	12.4	"		222			5.71	45	
Pyrene	16.9	0.23	0.60	"		17.1			1.52	45	
2,4,6-Trichlorophenol	ND	0.46	1.37	"		ND				45	
1-Methylnaphthalene	263	0.52	13.3	"		245			7.15	45	
Surrogate: 2,4,6-Tribromophenol	*9.15*			"	*10.4*		*88.3*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.69*			"	*5.18*		*52.0*	*21.3-100*			
Surrogate: 2-Fluorophenol	*9.38*			"	*10.4*		*90.5*	*0-200*			
Surrogate: Nitrobenzene-d5	*6.00*			"	*5.18*		*116*	*18.4-100*			*SR06*
Surrogate: Phenol-d5	*4.31*			"	*10.4*		*41.6*	*10-126*			
Surrogate: Terphenyl-dl4	*2.49*			"	*5.18*		*48.0*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I27021 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2I27021-MS1)		**Source: 2209354-02**									
Acenaphthene	379	1.69	11.1	ug/L	10.3	376	32.8	36.4-100			M5
Acenaphthylene	9.46	0.12	1.20	"	10.3	4.06	52.4	35.5-100			
Anthracene	24.0	1.30	13.3	"	10.3	20.0	38.6	39.6-100			M5
Benzo (a) anthracene	8.51	0.19	0.95	"	10.3	1.61	66.9	37.9-100			
Benzo (b) fluoranthene	6.49	0.19	1.47	"	10.3	0.90	54.2	34.4-105			
Benzo (k) fluoranthene	4.88	0.18	0.88	"	10.3	0.19	45.4	32.7-100			
Benzo (a) pyrene	6.54	0.21	1.29	"	10.3	0.55	58.0	40.6-100			
Bis(2-ethylhexyl)phthalate	10.4	0.38	1.11	"	10.3	ND	101	8-158			
Carbazole	515	270	810	"	10.3	657	NR	15.3-151			M5
4-Chloro-3-methylphenol	12.3	2.82	17.0	"	10.3	ND	119	22-147			
Chrysene	8.76	0.16	0.92	"	10.3	1.29	72.5	34.8-100			
Dibenz (a,h) anthracene	8.36	0.26	1.84	"	10.3	0.33	77.9	10-176			
Dibenzofuran	207	4.11	12.4	"	10.3	207	7.33	38.3-107			M5
2,4-Dimethylphenol	114	1.96	10.8	"	10.3	114	0.697	32-120			M5
2,4-Dinitrophenol	2170	13.3	44.5	"	10.3	ND	NR	5-191			M5
Di-n-octyl phthalate	8.37	0.30	1.75	"	10.3	ND	81.2	4-146			
Fluoranthene	43.2	2.08	15.5	"	10.3	33.2	96.7	44.8-100			
Fluorene	218	1.65	12.3	"	10.3	213	43.7	40.1-100			
Indeno (1,2,3-cd) pyrene	7.41	0.25	1.68	"	10.3	0.43	67.7	10-173			
2-Methylnaphthalene	367	0.52	13.2	"	10.3	380	NR	16.6-107			M5
2-Methylphenol	18.4	4.26	12.8	"	10.3	15.8	24.6	7.21-120			
3 & 4-Methylphenol	33.1	11.6	34.9	"	20.6	16.5	80.3	8-134			
Naphthalene	3980	15.9	102	"	10.3	4140	NR	29.1-100			M5
Pentachlorophenol	9.18	0.66	10.3	"	10.3	ND	89.0	14-176			
Phenanthrene	226	1.51	12.4	"	10.3	222	32.1	40.7-100			M5
Pyrene	16.3	2.27	5.98	"	10.3	17.1	NR	40.6-100			M5
2,4,6-Trichlorophenol	7.25	0.45	1.36	"	10.3	ND	70.3	37-144			
1-Methylnaphthalene	241	0.52	13.2	"	10.3	245	NR	18.5-100			M5
Surrogate: 2,4,6-Tribromophenol	*7.82*			"	*10.3*		*75.9*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.65*			"	*5.15*		*51.4*	*21.3-100*			
Surrogate: 2-Fluorophenol	*10.5*			"	*10.3*		*102*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.51*			"	*5.15*		*68.0*	*18.4-100*			
Surrogate: Phenol-d5	*3.93*			"	*10.3*		*38.1*	*10-126*			
Surrogate: Terphenyl-dl4	*2.34*			"	*5.15*		*45.4*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28027 - EPA 3510C DCN 4000 Rev 12											
Blank (2I28027-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							CC-01
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*70.5*			"	*100*		*70.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*28.2*			"	*50.0*		*56.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*29.4*			"	*100*		*29.4*	*10-100*			
Surrogate: Nitrobenzene-d5	*20.6*			"	*50.0*		*41.2*	*10-100*			
Surrogate: Phenol-d5	*22.7*			"	*100*		*22.7*	*10-112*			
Surrogate: Terphenyl-dl4	*28.8*			"	*50.0*		*57.5*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28027 - EPA 3510C DCN 4000 Rev 12											
LCS (2I28027-BS1)											
Acenaphthene	95.8	1.13	10.0	ug/L	100		95.8	36.1-108			
Acenaphthylene	91.0	1.07	10.0	"	100		91.0	34.6-109			
Anthracene	65.7	0.99	10.0	"	100		65.7	36.4-106			
Benzo (a) anthracene	104	0.87	10.0	"	100		104	42.9-110			
Benzo (b) fluoranthene	90.2	1.03	10.0	"	100		90.2	43.7-105			
Benzo (k) fluoranthene	84.1	1.01	10.0	"	100		84.1	38.1-112			
Benzo (a) pyrene	82.7	0.98	10.0	"	100		82.7	46.5-104			
Bis(2-ethylhexyl)phthalate	100	1.14	10.0	"	100		100	25.1-113			
Carbazole	68.1	0.90	10.0	"	100		68.1	5.43-162			
4-Chloro-3-methylphenol	67.0	1.04	10.0	"	100		67.0	39.1-106			
Chrysene	89.4	0.92	10.0	"	100		89.4	43.2-103			
Dibenz (a,h) anthracene	94.2	0.67	10.0	"	100		94.2	31-119			
Dibenzofuran	76.3	1.04	10.0	"	100		76.3	37.6-110			
2,4-Dimethylphenol	65.3	0.84	10.0	"	100		65.3	36-100			
2,4-Dinitrophenol	35.7	3.05	10.0	"	100		35.7	10.5-124			
Di-n-octyl phthalate	137	1.35	10.0	"	100		137	33.6-140			
Fluoranthene	83.0	0.93	10.0	"	100		83.0	26.4-121			CC-03
Fluorene	119	1.01	10.0	"	100		119	36.9-120			
Indeno (1,2,3-cd) pyrene	98.7	0.89	10.0	"	100		98.7	35.6-116			
2-Methylnaphthalene	74.0	1.12	10.0	"	100		74.0	34.3-102			CC-03
2-Methylphenol	48.6	0.88	10.0	"	100		48.6	35-101			
3 & 4-Methylphenol	108	0.87	10.0	"	200		54.0	29.4-107			
Naphthalene	62.4	1.09	10.0	"	100		62.4	36.8-100			
Pentachlorophenol	36.6	2.72	10.0	"	100		36.6	15.1-115			
Phenanthrene	75.1	0.93	10.0	"	100		75.1	36.4-110			
Pyrene	66.2	1.09	10.0	"	100		66.2	23.9-114			
2,4,6-Trichlorophenol	67.4	2.58	10.0	"	100		67.4	36-104			
Surrogate: 2,4,6-Tribromophenol	*69.0*			"	*100*		*69.0*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*38.9*			"	*50.0*		*77.8*	*16.9-105*			
Surrogate: 2-Fluorophenol	*19.9*			"	*100*		*19.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*28.8*			"	*50.0*		*57.5*	*10-100*			
Surrogate: Phenol-d5	*24.3*			"	*100*		*24.3*	*10-112*			
Surrogate: Terphenyl-dl4	*26.9*			"	*50.0*		*53.9*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28027 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (2I28027-BSD1)											
Acenaphthene	93.8	1.13	10.0	ug/L	100		93.8	36.1-108	2.11	40	
Acenaphthylene	88.7	1.07	10.0	"	100		88.7	34.6-109	2.54	40	
Anthracene	66.3	0.99	10.0	"	100		66.3	36.4-106	0.924	40	
Benzo (a) anthracene	97.0	0.87	10.0	"	100		97.0	42.9-101	6.52	40	
Benzo (b) fluoranthene	90.5	1.03	10.0	"	100		90.5	43.7-105	0.409	40	
Benzo (k) fluoranthene	107	1.01	10.0	"	100		107	38.1-112	24.4	40	
Benzo (a) pyrene	87.4	0.98	10.0	"	100		87.4	46.5-104	5.61	40	
Bis(2-ethylhexyl)phthalate	86.1	1.14	10.0	"	100		86.1	25.1-113	15.4	40	
Carbazole	57.7	0.90	10.0	"	100		57.7	5.43-162	16.5	40	
4-Chloro-3-methylphenol	79.5	1.04	10.0	"	100		79.5	39.1-106	17.1	40	
Chrysene	90.1	0.92	10.0	"	100		90.1	43.2-103	0.758	40	
Dibenz (a,h) anthracene	101	0.67	10.0	"	100		101	31-119	6.60	40	
Dibenzofuran	70.3	1.04	10.0	"	100		70.3	37.6-110	8.22	40	
2,4-Dimethylphenol	77.5	0.84	10.0	"	100		77.5	36-100	17.1	40	
2,4-Dinitrophenol	49.5	3.05	10.0	"	100		49.5	10.5-124	32.4	40	
Di-n-octyl phthalate	98.8	1.35	10.0	"	100		98.8	33.6-111	32.4	40	
Fluoranthene	92.8	0.93	10.0	"	100		92.8	26.4-121	11.1	40	CC-03
Fluorene	102	1.01	10.0	"	100		102	36.9-109	15.1	40	
Indeno (1,2,3-cd) pyrene	100	0.89	10.0	"	100		100	35.6-116	1.64	40	
2-Methylnaphthalene	84.2	1.12	10.0	"	100		84.2	34.3-102	12.8	40	CC-03
2-Methylphenol	73.4	0.88	10.0	"	100		73.4	35-101	40.7	40	L3
3 & 4-Methylphenol	158	0.87	10.0	"	200		79.0	29.4-107	37.6	40	
Naphthalene	66.2	1.09	10.0	"	100		66.2	36.8-100	5.88	40	
Pentachlorophenol	44.3	2.72	10.0	"	100		44.3	15.1-115	19.0	40	
Phenanthrene	75.9	0.93	10.0	"	100		75.9	36.4-110	1.06	40	
Pyrene	58.2	1.09	10.0	"	100		58.2	23.9-114	12.9	40	
2,4,6-Trichlorophenol	86.1	2.58	10.0	"	100		86.1	36-104	24.3	40	
Surrogate: 2,4,6-Tribromophenol	*77.7*			"	*100*		*77.7*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*44.3*			"	*50.0*		*88.6*	*16.9-105*			
Surrogate: 2-Fluorophenol	*33.1*			"	*100*		*33.1*	*10-100*			
Surrogate: Nitrobenzene-d5	*38.3*			"	*50.0*		*76.6*	*10-100*			
Surrogate: Phenol-d5	*36.5*			"	*100*		*36.5*	*10-112*			
Surrogate: Terphenyl-dl4	*25.4*			"	*50.0*		*50.8*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28027 - EPA 3510C DCN 4000 Rev 12											
Duplicate (2I28027-DUP1)			**Source: 2209333-01**								
Acenaphthene	14.0	1.16	10.3	ug/L		14.1			0.509	45	
Acenaphthylene	ND	1.10	10.3	"		ND				45	
Anthracene	ND	1.02	10.3	"		ND				45	
Benzo (a) anthracene	ND	0.90	10.3	"		ND				45	
Benzo (b) fluoranthene	ND	1.06	10.3	"		ND				45	
Benzo (k) fluoranthene	ND	1.04	10.3	"		ND				45	
Benzo (a) pyrene	ND	1.01	10.3	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.18	10.3	"		ND				45	
Carbazole	ND	0.92	10.3	"		ND				45	
4-Chloro-3-methylphenol	ND	1.07	10.3	"		ND				45	
Chrysene	ND	0.95	10.3	"		ND				45	
Dibenz (a,h) anthracene	ND	0.69	10.3	"		ND				45	
Dibenzofuran	16.2	1.07	10.3	"		15.9			1.73	45	
2,4-Dimethylphenol	ND	0.87	10.3	"		ND				45	
2,4-Dinitrophenol	ND	3.14	10.3	"		ND				45	
Di-n-octyl phthalate	ND	1.39	10.3	"		ND				45	
Fluoranthene	ND	0.96	10.3	"		ND				45	CC-01
Fluorene	10.6	1.04	10.3	"		11.7			9.45	45	
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"		ND				45	
2-Methylnaphthalene	ND	1.15	10.3	"		ND				45	CC-01
2-Methylphenol	ND	0.91	10.3	"		ND				45	
3 & 4-Methylphenol	14.0	0.90	10.3	"		17.7			23.0	45	
Naphthalene	40.5	1.12	10.3	"		38.7			4.47	45	
Pentachlorophenol	ND	2.80	10.3	"		ND				45	
Phenanthrene	ND	0.96	10.3	"		ND				45	
Pyrene	ND	1.12	10.3	"		ND				45	
2,4,6-Trichlorophenol	ND	2.66	10.3	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*76.3*			"	*103*		*74.0*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*38.8*			"	*51.5*		*75.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*32.9*			"	*103*		*31.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*35.6*			"	*51.5*		*69.1*	*10-100*			
Surrogate: Phenol-d5	*30.7*			"	*103*		*29.8*	*10-112*			
Surrogate: Terphenyl-dl4	*26.9*			"	*51.5*		*52.3*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28027 - EPA 3510C DCN 4000 Rev 12											
Matrix Spike (2I28027-MS1)		**Source: 2209333-01**									
Acenaphthene	113	1.16	10.3	ug/L	103	14.1	95.5	10-121			
Acenaphthylene	81.6	1.10	10.3	"	103	ND	79.1	19-110			
Anthracene	64.0	1.02	10.3	"	103	ND	62.1	16.1-116			
Benzo (a) anthracene	87.8	0.90	10.3	"	103	ND	85.2	27.7-107			
Benzo (b) fluoranthene	72.8	1.06	10.3	"	103	ND	70.6	23.3-117			
Benzo (k) fluoranthene	78.1	1.04	10.3	"	103	ND	75.8	20.4-113			
Benzo (a) pyrene	81.9	1.01	10.3	"	103	ND	79.4	34.6-101			
Bis(2-ethylhexyl)phthalate	80.9	1.18	10.3	"	103	ND	78.5	10-108			
Carbazole	77.4	0.92	10.3	"	103	ND	75.1	10-159			
4-Chloro-3-methylphenol	71.3	1.07	10.3	"	103	ND	69.1	19.8-110			
Chrysene	81.2	0.95	10.3	"	103	ND	78.7	25.6-113			
Dibenz (a,h) anthracene	91.9	0.69	10.3	"	103	ND	89.1	15.9-129			
Dibenzofuran	87.4	1.07	10.3	"	103	15.9	69.4	10-115			
2,4-Dimethylphenol	68.7	0.87	10.3	"	103	ND	66.6	17.2-115			
2,4-Dinitrophenol	45.3	3.14	10.3	"	103	ND	44.0	10-129			
Di-n-octyl phthalate	81.0	1.39	10.3	"	103	ND	78.5	21.1-102			
Fluoranthene	89.9	0.96	10.3	"	103	ND	87.2	15-119			CC-03
Fluorene	99.4	1.04	10.3	"	103	11.7	85.0	10-125			
Indeno (1,2,3-cd) pyrene	92.9	0.91	10.3	"	103	ND	90.1	18.2-129			
2-Methylnaphthalene	80.0	1.15	10.3	"	103	ND	77.6	10-117			CC-03
2-Methylphenol	54.0	0.91	10.3	"	103	ND	52.4	10-106			
3 & 4-Methylphenol	123	0.90	10.3	"	206	17.7	51.3	10-102			
Naphthalene	97.2	1.12	10.3	"	103	38.7	56.7	19.6-98.1			
Pentachlorophenol	42.7	2.80	10.3	"	103	ND	41.4	10-125			
Phenanthrene	78.9	0.96	10.3	"	103	ND	76.5	16.9-120			
Pyrene	56.2	1.12	10.3	"	103	ND	54.5	12.3-105			
2,4,6-Trichlorophenol	79.8	2.66	10.3	"	103	ND	77.4	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*79.5*			"	*103*		*77.1*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*40.4*			"	*51.5*		*78.4*	*16.9-105*			
Surrogate: 2-Fluorophenol	*23.5*			"	*103*		*22.8*	*10-100*			
Surrogate: Nitrobenzene-d5	*31.3*			"	*51.5*		*60.8*	*10-100*			
Surrogate: Phenol-d5	*26.4*			"	*103*		*25.6*	*10-112*			
Surrogate: Terphenyl-dl4	*22.7*			"	*51.5*		*44.1*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28030 - EPA 5030B											
Blank (2I28030-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*45.4*			"	*50.0*		*90.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.6*			"	*50.0*		*99.2*	*87.4-116*			
Surrogate: Toluene-d8	*49.0*			"	*50.0*		*98.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.4*			"	*50.0*		*103*	*80.4-119*			
LCS (2I28030-BS1)											
Benzene	20.7	0.258	5.00	ug/L	20.0		103	64.2-144			
Ethylbenzene	20.0	0.190	5.00	"	20.0		100	64.9-150			
Surrogate: Dibromofluoromethane	*46.9*			"	*50.0*		*93.7*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*			"	*50.0*		*95.7*	*87.4-116*			
Surrogate: Toluene-d8	*49.0*			"	*50.0*		*98.1*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*52.3*			"	*50.0*		*105*	*80.4-119*			
LCS Dup (2I28030-BSD1)											
Benzene	20.1	0.258	5.00	ug/L	20.0		101	64.2-144	2.65	30	
Ethylbenzene	19.7	0.190	5.00	"	20.0		98.6	64.9-150	1.41	30	
Surrogate: Dibromofluoromethane	*46.0*			"	*50.0*		*92.0*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.4*			"	*50.0*		*94.9*	*87.4-116*			
Surrogate: Toluene-d8	*48.2*			"	*50.0*		*96.5*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.1*			"	*50.0*		*102*	*80.4-119*			
Matrix Spike (2I28030-MS1)		**Source: 2209286-05**									
Benzene	24.5	0.258	5.00	ug/L	20.0	1.19	117	70-149			
Ethylbenzene	41.2	0.190	5.00	"	20.0	17.9	117	70.2-150			
Surrogate: Dibromofluoromethane	*46.7*			"	*50.0*		*93.4*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.6*			"	*50.0*		*95.2*	*87.4-116*			
Surrogate: Toluene-d8	*48.4*			"	*50.0*		*96.9*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.8*			"	*50.0*		*104*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 2I28030 - EPA 5030B											
Matrix Spike Dup (2I28030-MSD1)			**Source: 2209286-05**								
Benzene	23.0	0.258	5.00	ug/L	20.0	1.19	109	70-149	6.44	35	
Ethylbenzene	38.3	0.190	5.00	"	20.0	17.9	102	70.2-150	7.34	35	
Surrogate: Dibromofluoromethane	*46.4*			"	*50.0*		*92.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*			"	*50.0*		*94.7*	*87.4-116*			
Surrogate: Toluene-d8	*48.2*			"	*50.0*		*96.4*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.8*			"	*50.0*		*102*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Certified Analyses Included in this Report

Analyte	Certification Code
ASTM D 512-12 in Water	
Chloride	C01,C02
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01,C02
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01,C02
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01,C02
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02
1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02
Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Chrysene	C01,C02
Chrysene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 12/20/2022 13:05

2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/20/2022 13:05

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	*LA Environmental Lab Accreditation Program*	*01960*	*06/30/2022*
C02	*The NELAC Institute (NELAP)*	*TNI01397*	*06/30/2022*
C03	*Ms Dept of Health (Drinking Water Microbiology)*	*MS00021*	*12/31/2022*
C04	*Ms Dept of Health (Drinking Water Chemistry)*	*MS00021*	*12/31/2022*
C05	*Ms DEQ Lead Firm Certification*	*PBF-00000028*	*03/24/2023*
C06	*MsDEQ Asbestos Inspector : C.D. Bingham*	*ABI-00001348*	*02/12/2023*
C07	*MsDEQ Air Monitor : C.D. Bingham*	*AM-011572*	*02/13/2023*
C08	*MsDEQ Asbestos Inspector: C. W. Meins*	*ABI-00001821*	*09/09/2022*
C09	*MsDEQ Air Monitor : C.W. Meins*	*AM-011189*	*02/13/2023*
C14	*MsDEQ Lead Paint Inspector : C.D. Bingham*	*PBI-00003690*	*01/29/2023*
C15	*MsDEQ Lead Paint Inspector : C.W. Meins*	*PBI-00001740*	*01/29/2023*

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/20/2022 13:05

Analyst Initials Key

FullName	Initials
Alexandria S Calloway	ASC
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Garrett Givhan	GWG
Howard Mitch Spicer	HMS
Jason B McCullar	JBM
Jeremy Broussard	JLB
Sarah E. Tomek	SET
Teresa Meins	TKM
Tina Tomek	TPT

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2209354

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-544-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Project Name: MOBILE CFI 3RD QTR
Project #:

Turn Around Time & Reporting
Our normal turn around time is 10 working days

_X_Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	NITRATE	CHLORIDE	METALS	AMMONIA	BNA	VOA
Preservative:											
RC-2	9-21-22/10:15	W	7	G	X	X	X	X	X	X	X
RW-3A	9-21-22/11:30	W	11	G	X	X	X	X	X	X	X
RC-3	9-21-22/13:10	W	7	G	X	X	X	X	X	X	X
T-1	9-21-22/13:45	W	7	G	X	X	X	X	X	X	X
T-2	9-21-22/14:30	W	7	G	X	X	X	X	X	X	X
E-1	9-21-22/15:30	W	9	G	X	X	X	X	X	X	X
TBV# 7030	9-21-22/10:15	W	2	G							X

Field Testing

ID#	ID#	ID#	ID#
Field Test	Field Test	Field Test	Field Test

MICRO-METHODS
LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 22, 2021

Ethan Allen

Work Order # : 2109390

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 09/21/2021 16:02. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-1	2109390-01	Water	09/21/2021 13:00	*Jeff Gonsoulin*	09/21/2021 16:02
Mobile/RW-2	2109390-02	Water	09/21/2021 13:10	*Jeff Gonsoulin*	09/21/2021 16:02
Mobile/RC-1	2109390-03	Water	09/21/2021 14:00	*Jeff Gonsoulin*	09/21/2021 16:02
Mobile/RC-1A	2109390-04	Water	09/21/2021 14:15	*Jeff Gonsoulin*	09/21/2021 16:02
Trip Blank TBV#6793	2109390-05	Water	09/21/2021 13:00	*Micro Methods*	09/21/2021 16:02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Sample Receipt Conditions

Date/Time Received: 9/21/2021 4:02:00PM
Received by: Sarah E. Tomek
Date/Time Logged: 9/22/2021 8:28:00AM
Cooler ID: client cooler #2

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Cooler ID: client cooler #3 **Receipt Temperature:** 0.6 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

Report resubmitted with revised format at client's request - HMS 12/22/2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

B-06 Possible laboratory contamination.

Naphthalene
1I28028-BLK1

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol
1I27031-BLK1, 1I27031-DUP1, 2109390-01[Mobile/RW-1], 2109390-02[Mobile/RW-2]

CC-02 ICV exceeds the acceptance limit. Sample results reported from calibration were below the reporting limits.

Di-n-octyl phthalate
1I27038-BLK1, 2109390-03[Mobile/RC-1], 2109390-04[Mobile/RC-1A]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol
1I27031-BS1, 1I27031-BSD1

CC-06 ICV exceeds the acceptance limit. QC results reported from calibration were within acceptance limits.

Di-n-octyl phthalate
1I27038-BS1, 1I27038-BSD1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 2,4-Dinitrophenol, 2-Methylphenol, 4-Chloro-3-methylphenol, Acenaphthylene, Anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Chrysene, Dibenz (a,h) anthracene, Indeno (1,2,3-cd) pyrene
2109390-04[Mobile/RC-1A], 2109390-03[Mobile/RC-1], 2109390-01[Mobile/RW-1], 2109390-02[Mobile/RW-2]

L3 LCS/LCSD Precision Limit exceeded.

Fluoranthene
1I27038-BSD1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Anthracene, Benzo (a) pyrene, Benzo (k) fluoranthene, Fluoranthene, Indeno (1,2,3-cd) pyrene, Naphthalene
1I28028-DUP1, 1I27038-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

2-Fluorobiphenyl, Nitrobenzene-d5

1I28028-DUP1, 2109390-02[Mobile/RW-2]

SR06 Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.

Nitrobenzene-d5

2109390-01[Mobile/RW-1]

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

2109390-01[Mobile/RW-1], 2109390-02[Mobile/RW-2], 2109390-03[Mobile/RC-1], 2109390-04[Mobile/RC-1A]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Mobile/RW-1

2109390-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.44**	0.02	0.05	ug/L	1.0	1I28028	CRLV	09/28/2021 08:26	09/30/2021 16:38	EPA 8270D	
2-Methylnaphthalene	**0.07**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	**0.02**	0.01	0.06	"	"	"	CRLV	"	"	"	J
Acenaphthene	**0.16**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	**0.16**	0.02	0.13	"	"	"	CRLV	"	"	"	
Phenanthrene	**0.23**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	**0.04**	0.02	0.06	"	"	"	CRLV	"	"	"	J
Fluoranthene	**0.72**	0.03	0.06	"	"	"	CRLV	"	"	"	
Pyrene	**0.50**	0.02	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**0.16**	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	**0.26**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**0.40**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**0.17**	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**0.20**	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.12**	0.03	0.18	"	"	"	CRLV	"	"	"	J
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0628	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.0942	*45.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.251	*120 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**5.30**	0.095	0.500	mg/L	1.0	1I23039	DLW	09/22/2021 12:42	09/22/2021 12:42	SM 4110B 2011	
Nitrate as N	**2.73**	0.099	2.50	"	5.0	"	DLW	"	09/22/2021 16:18	"	
Ammonia as N	**0.47**	0.04	0.21	"	1.0	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:32	Lachat 10-107-06-1-I	
pH	**6.14**			pH Units	"	1I27043	CRG	09/27/2021 17:25	09/27/2021 17:25	SM 4500-H+B-2011	
Specific Conductance (EC)	**104**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00207**	0.00021	0.00200	mg/L	1.0	1J01011	CLV	09/24/2021 09:40	09/29/2021 18:31	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	**0.00568**	0.00017	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Mobile/RW-1

2109390-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.11	ug/L	1.0	1I27031	CRLV	09/27/2021 09:52	09/27/2021 19:01	EPA 8270D	
Carbazole	ND	2.69	8.06	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.69	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.23	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.19	1.08	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.32	4.43	"	"	"	CRLV	"	"	"	CC-01
Di-n-octyl phthalate	ND	0.30	1.74	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.16	3.48	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.03	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	2.76	*26.9 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.14	*22.2 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	1.98	*19.3 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.933	*18.2 %*	*18.4-100*	"	CRLV	"	"	"	*SR06*
Phenol-d5	1.21	*11.8 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	1.74	*34.0 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 20:29	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.9	*89.8 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.2	*98.5 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	51.1	*102 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.7	*101 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Mobile/RW-2

2109390-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**643**	22.1	51.0	ug/L	1000.0	1I28028	CRLV	09/28/2021 08:26	10/05/2021 15:33	EPA 8270D	
2-Methylnaphthalene	**153**	51.0	51.0	"	"	"	CRLV	"	"	"	
Acenaphthylene	**2.86**	0.12	0.61	"	10.0	"	CRLV	"	10/01/2021 00:07	"	
Acenaphthene	**204**	22.1	51.0	"	1000.0	"	CRLV	"	10/05/2021 15:33	"	
Fluorene	**91.8**	17.1	51.0	"	"	"	CRLV	"	"	"	
Phenanthrene	**214**	15.6	61.2	"	"	"	CRLV	"	"	"	
Anthracene	**28.6**	1.56	6.12	"	100.0	"	CRLV	"	10/05/2021 23:43	"	
Fluoranthene	**61.2**	26.2	61.2	"	1000.0	"	CRLV	"	10/05/2021 15:33	"	
Pyrene	**61.2**	17.1	51.0	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**8.88**	0.25	0.61	"	10.0	"	CRLV	"	10/01/2021 00:07	"	
Chrysene	**7.55**	0.31	0.51	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**6.12**	2.62	5.10	"	100.0	"	CRLV	"	10/05/2021 23:43	"	
Benzo (k) fluoranthene	**4.08**	0.25	0.51	"	10.0	"	CRLV	"	10/06/2021 01:05	"	
Benzo (a) pyrene	**1.84**	0.22	0.61	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**0.41**	0.25	1.73	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.36	1.63	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.00	*%*	*11.7-131*	"	CRLV	"	*10/01/2021 00:07*	"	*SR01*
Nitrobenzene-d5	0.00	*%*	*19.6-113*	"	CRLV	"	*10/01/2021 00:48*	"	*SR01*
Terphenyl-dl4	0.306	*150 %*	*11.3-166*	"	CRLV	"	*10/01/2021 00:07*	"	

Classical Chemistry Parameters											
Chloride	**43.2**	0.189	1.00	mg/L	2.0	1I23039	DLW	09/22/2021 12:42	09/22/2021 18:25	SM 4110B 2011	
Nitrate as N	**1.30**	0.020	0.500	"	1.0	"	DLW	"	09/22/2021 13:13	"	
Ammonia as N	**0.61**	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:33	Lachat 10-107-06-1-I	
pH	**6.00**			pH Units	"	1I27043	CRG	09/27/2021 17:30	09/27/2021 17:30	SM 4500-H+B-2011	
Specific Conductance (EC)	**364**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00269**	0.00021	0.00200	mg/L	1.0	1J01011	CLV	09/24/2021 09:40	09/29/2021 18:49	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Mobile/RW-2

2109390-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.38	1.13	ug/L	1.0	1I27031	CRLV	09/27/2021 09:52	09/27/2021 20:13	EPA 8270D	
Carbazole	**86.9**	27.3	81.9	"	10.0	"	CRLV	"	09/29/2021 11:40	"	
4-Chloro-3-methylphenol	ND	0.29	1.72	"	1.0	"	CRLV	"	09/27/2021 20:13	"	
Dibenzofuran	**161**	4.16	12.5	"	10.0	"	CRLV	"	09/29/2021 11:40	"	
2,4-Dimethylphenol	**2.50**	0.20	1.09	"	1.0	"	CRLV	"	09/27/2021 20:13	"	
2,4-Dinitrophenol	ND	1.34	4.50	"	"	"	CRLV	"	"	"	CC-0
Di-n-octyl phthalate	ND	0.30	1.77	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.29	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.18	3.53	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.04	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.38	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.84	*75.3 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.61	*50.2 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	3.21	*30.8 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	3.07	*59.0 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	2.24	*21.5 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	3.28	*63.0 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 20:53	EPA 8260D	
Ethylbenzene	**5.68**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.4	*88.8 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	47.7	*95.4 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	51.0	*102 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	51.3	*103 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Mobile/RC-1

2109390-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**200**	0.946	5.00	mg/L	10.0	1I23039	DLW	09/22/2021 12:42	09/22/2021 18:57	SM 4110B 2011	
Nitrate as N	ND	0.020	0.500	"	1.0	"	DLW	"	09/22/2021 13:45	"	
Ammonia as N	**8.12**	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:34	Lachat 10-107-06-1-I	
pH	**6.53**			pH Units	"	1I27043	CRG	09/27/2021 17:32	09/27/2021 17:32	SM 4500-H+B-2011	
Specific Conductance (EC)	**1230**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1J01011	CLV	09/24/2021 09:40	09/29/2021 18:55	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Mobile/RC-1

2109390-03 (Water)

Semivolatile Organic Compounds by SW-846 Method 8270D

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Acenaphthene	**316**	11.7	104	ug/L	10.0	1I27038	CRLV	09/27/2021 12:30	10/05/2021 00:58	EPA 8270D	
Acenaphthylene	ND	1.11	10.4	"	1.0	"	CRLV	"	09/30/2021 18:54	"	
Anthracene	ND	1.02	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**10.6**	0.90	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**8.84**	1.07	10.4	"	"	"	CRLV	"	"	"	J
Benzo (k) fluoranthene	**3.77**	1.05	10.4	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	**4.29**	1.01	10.4	"	"	"	CRLV	"	"	"	J
Bis(2-ethylhexyl)phthalate	ND	1.18	10.4	"	"	"	CRLV	"	"	"	
Carbazole	**361**	9.30	104	"	10.0	"	CRLV	"	10/05/2021 00:58	"	
4-Chloro-3-methylphenol	**14.8**	10.8	104	"	"	"	CRLV	"	"	"	J
Chrysene	**7.74**	0.96	10.4	"	1.0	"	CRLV	"	09/30/2021 18:54	"	J
Dibenz (a,h) anthracene	**0.87**	0.69	10.4	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**184**	10.8	104	"	10.0	"	CRLV	"	10/05/2021 00:58	"	
2,4-Dimethylphenol	**452**	8.72	104	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	**7.63**	3.16	10.4	"	1.0	"	CRLV	"	09/30/2021 18:54	"	J
Di-n-octyl phthalate	ND	1.40	10.4	"	"	"	CRLV	"	"	"	CC-02
Fluoranthene	**48.5**	0.97	10.4	"	"	"	CRLV	"	"	"	
Fluorene	**191**	10.5	104	"	10.0	"	CRLV	"	10/05/2021 00:58	"	
Indeno (1,2,3-cd) pyrene	**1.63**	0.92	10.4	"	1.0	"	CRLV	"	09/30/2021 18:54	"	J
2-Methylnaphthalene	**357**	11.6	104	"	10.0	"	CRLV	"	10/05/2021 00:58	"	
2-Methylphenol	**1.91**	0.91	10.4	"	1.0	"	CRLV	"	09/30/2021 18:54	"	J
3 & 4-Methylphenol	**40.2**	0.90	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	**3380**	56.5	518	"	50.0	"	CRLV	"	10/05/2021 16:18	"	
Pentachlorophenol	ND	2.82	10.4	"	1.0	"	CRLV	"	09/30/2021 18:54	"	
Phenanthrene	**190**	9.62	104	"	10.0	"	CRLV	"	10/05/2021 00:58	"	
Pyrene	**44.4**	1.13	10.4	"	1.0	"	CRLV	"	09/30/2021 18:54	"	
2,4,6-Trichlorophenol	ND	2.67	10.4	"	"	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Mobile/RC-1

2109390-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
2,4,6-Tribromophenol	90.4	*87.2 %*	*16.7-116*			*1I27038*	CRLV	*09/27/2021 12:30*	"	"	
2-Fluorobiphenyl	40.1	*77.4 %*	*16.9-105*			"	CRLV	"	"	"	
2-Fluorophenol	66.6	*64.2 %*	*10-100*			"	CRLV	"	"	"	
Nitrobenzene-d5	33.4	*64.4 %*	*10-100*			"	CRLV	"	*10/05/2021 00:58*	"	
Phenol-d5	65.2	*62.9 %*	*10-112*			"	CRLV	"	*09/30/2021 18:54*	"	
Terphenyl-dl4	12.2	*23.5 %*	*10-105*			"	CRLV	"	"	"	
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**12.8**	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 21:17	EPA 8260D	
Ethylbenzene	**47.5**	0.190	5.00	"	"	"	BSF	"	"	"	
Surrogate	***Result***	***% Rec***	***Rec Limits***			***Batch***	***Analyst***	***Date Time Prepared***	***Date Time Analyzed***	***Method***	***Qualifiers***
Dibromofluoromethane	44.9	*89.7 %*	*83.9-122*			"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.4	*96.9 %*	*87.4-116*			"	BSF	"	"	"	
Toluene-d8	51.8	*104 %*	*81.4-118*			"	BSF	"	"	"	
4-Bromofluorobenzene	52.3	*105 %*	*80.4-119*			"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Mobile/RC-1A

2109390-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**143**	0.946	5.00	mg/L	10.0	1I23039	DLW	09/22/2021 12:42	09/22/2021 19:29	SM 4110B 2011	
Nitrate as N	**1.26**	0.020	0.500	"	1.0	"	DLW	"	09/22/2021 14:17	"	
Ammonia as N	**1.34**	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:35	Lachat 10-107-06-1-I	
pH	**6.28**			pH Units	"	1I27043	CRG	09/27/2021 17:34	09/27/2021 17:34	SM 4500-H+B-2011	
Specific Conductance (EC)	**701**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1J01011	CLV	09/24/2021 09:40	09/29/2021 19:01	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	CLV	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	CLV	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	CLV	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Mobile/RC-1A

2109390-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**327**	11.6	103	ug/L	10.0	1I27038	CRLV	09/27/2021 12:30	10/05/2021 01:32	EPA 8270D	
Acenaphthylene	ND	1.10	10.3	"	1.0	"	CRLV	"	09/30/2021 19:28	"	
Anthracene	**2.71**	1.02	10.3	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.06	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.04	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.01	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.18	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**421**	9.25	103	"	10.0	"	CRLV	"	10/05/2021 01:32	"	
4-Chloro-3-methylphenol	**7.07**	1.07	10.3	"	1.0	"	CRLV	"	09/30/2021 19:28	"	J
Chrysene	ND	0.95	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**164**	10.7	103	"	10.0	"	CRLV	"	10/05/2021 01:32	"	
2,4-Dimethylphenol	**6.27**	0.87	10.3	"	1.0	"	CRLV	"	09/30/2021 19:28	"	J
2,4-Dinitrophenol	**7.52**	3.14	10.3	"	"	"	CRLV	"	"	"	J
Di-n-octyl phthalate	ND	1.39	10.3	"	"	"	CRLV	"	"	"	CC-02
Fluoranthene	ND	0.96	10.3	"	"	"	CRLV	"	"	"	
Fluorene	**166**	10.4	103	"	10.0	"	CRLV	"	10/05/2021 01:32	"	
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"	1.0	"	CRLV	"	09/30/2021 19:28	"	
2-Methylnaphthalene	**82.0**	11.5	51.5	"	10.0	"	CRLV	"	10/05/2021 01:32	"	
2-Methylphenol	**2.25**	0.91	10.3	"	1.0	"	CRLV	"	09/30/2021 19:28	"	J
3 & 4-Methylphenol	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**856**	11.2	103	"	10.0	"	CRLV	"	10/05/2021 01:32	"	
Pentachlorophenol	ND	2.80	10.3	"	1.0	"	CRLV	"	09/30/2021 19:28	"	
Phenanthrene	**105**	0.96	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.66	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	75.8	*73.5 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	39.0	*75.6 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	64.7	*62.7 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	41.9	*81.4 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	68.4	*66.4 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	34.0	*65.9 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Mobile/RC-1A

2109390-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**5.76**	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 21:41	EPA 8260D	
Ethylbenzene	**26.9**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.4	*88.8 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.8	*99.7 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.6	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.5	*98.9 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Trip Blank TBV#6793

2109390-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 22:04	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	43.6	*87.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.9	*97.7 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.5	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.2	*100 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
Blank (1I28028-BLK1)											
Naphthalene	0.07	0.02	0.05	ug/L							B-06
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	0.02	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.180*			"	*0.200*		*90.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.160*			"	*0.200*		*80.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
LCS (1I28028-BS1)											
Naphthalene	0.21	0.02	0.05	ug/L	0.200		105	10-145			
2-Methylnaphthalene	0.17	0.05	0.05	"	0.200		85.0	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.17	0.02	0.05	"	0.200		85.0	10-143			
Fluorene	0.17	0.02	0.12	"	0.200		85.0	10-150			
Phenanthrene	0.17	0.02	0.06	"	0.200		85.0	10-151			
Anthracene	0.14	0.02	0.06	"	0.200		70.0	10-130			
Fluoranthene	0.15	0.03	0.06	"	0.200		75.0	10-155			
Pyrene	0.21	0.02	0.05	"	0.200		105	10-148			
Benzo (a) anthracene	0.15	0.02	0.06	"	0.200		75.0	38.5-141			
Chrysene	0.21	0.03	0.05	"	0.200		105	45.4-150			
Benzo (b) fluoranthene	0.19	0.03	0.05	"	0.200		95.0	33.6-160			
Benzo (k) fluoranthene	0.23	0.02	0.05	"	0.200		115	33-159			
Benzo (a) pyrene	0.18	0.02	0.06	"	0.200		90.0	10-177			
Indeno (1,2,3-cd) pyrene	0.21	0.02	0.17	"	0.200		105	10.7-171			
Dibenz (a,h) anthracene	0.21	0.04	0.16	"	0.200		105	16-164			
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.190*			"	*0.200*		*95.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.190*			"	*0.200*		*95.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1I28028-BSD1)											
Naphthalene	0.19	0.02	0.05	ug/L	0.200		95.0	10-145	10.0	40	
2-Methylnaphthalene	0.17	0.05	0.05	"	0.200		85.0	50-150	0.00	40	
Acenaphthylene	0.12	0.01	0.06	"	0.200		60.0	10-147	15.4	40	
Acenaphthene	0.16	0.02	0.05	"	0.200		80.0	10-143	6.06	40	
Fluorene	0.16	0.02	0.12	"	0.200		80.0	10-150	6.06	40	
Phenanthrene	0.16	0.02	0.06	"	0.200		80.0	10-151	6.06	40	
Anthracene	0.14	0.02	0.06	"	0.200		70.0	10-130	0.00	40	
Fluoranthene	0.16	0.03	0.06	"	0.200		80.0	10-155	6.45	40	
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148	10.0	40	
Benzo (a) anthracene	0.19	0.02	0.06	"	0.200		95.0	38.5-141	23.5	40	
Chrysene	0.24	0.03	0.05	"	0.200		120	45.4-150	13.3	40	
Benzo (b) fluoranthene	0.24	0.03	0.05	"	0.200		120	33.6-160	23.3	40	
Benzo (k) fluoranthene	0.26	0.02	0.05	"	0.200		130	33-159	12.2	40	
Benzo (a) pyrene	0.20	0.02	0.06	"	0.200		100	10-177	10.5	40	
Indeno (1,2,3-cd) pyrene	0.22	0.02	0.17	"	0.200		110	10.7-171	4.65	40	
Dibenz (a,h) anthracene	0.22	0.04	0.16	"	0.200		110	16-164	4.65	40	
Surrogate: 2-Fluorobiphenyl	*0.100*			"	*0.200*		*50.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.190*			"	*0.200*		*95.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.200*			"	*0.200*		*100*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1I28028-DUP1)			**Source: 2109390-02**								
Naphthalene	653	22.1	51.0	ug/L		643			1.57	45	
2-Methylnaphthalene	91.2	0.51	0.51	"		153			50.6	45	
Acenaphthylene	3.16	0.12	0.61	"		2.86			10.2	45	
Acenaphthene	235	22.1	51.0	"		204			14.0	45	
Fluorene	112	17.1	122	"		91.8			20.0	45	
Phenanthrene	321	7.81	30.6	"		214			40.0	45	
Anthracene	56.1	7.81	30.6	"		28.6			65.1	45	P3
Fluoranthene	107	13.1	30.6	"		61.2			54.5	45	P3
Pyrene	71.4	17.1	51.0	"		61.2			15.4	45	
Benzo (a) anthracene	9.18	2.52	6.12	"		8.88			3.39	45	
Chrysene	11.2	3.05	5.10	"		7.55			39.1	45	
Benzo (b) fluoranthene	7.45	0.26	0.51	"		6.12			19.5	45	
Benzo (k) fluoranthene	2.24	0.25	0.51	"		4.08			58.1	45	P3
Benzo (a) pyrene	3.37	0.22	0.61	"		1.84			58.8	45	P3
Indeno (1,2,3-cd) pyrene	0.71	0.25	1.73	"		0.41			54.5	45	P3
Dibenz (a,h) anthracene	ND	0.36	1.63	"		ND				45	
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*0.204*			*11.7-100*			*SR01*
Surrogate: Nitrobenzene-d5	*0.0306*			"	*0.204*		*15.0*	*19.6-113*			*SR01*
Surrogate: Terphenyl-dl4	*0.235*			"	*0.204*		*115*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I23039 - Default Prep GenChem											
Blank (1I23039-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
LCS (1I23039-BS1)											
Chloride	9.25	0.095	0.500	mg/L	10.0		92.5	86.3-109			
Nitrate as N	2.14	0.020	0.500	"	2.26		94.5	81.7-111			
LCS Dup (1I23039-BSD1)											
Chloride	9.54	0.095	0.500	mg/L	10.0		95.4	86.3-109	3.18	20	
Nitrate as N	2.20	0.020	0.500	"	2.26		97.3	81.7-111	2.91	20	
Duplicate (1I23039-DUP1)			**Source: 2109390-01**								
Chloride	5.32	0.095	0.500	mg/L		5.30			0.301	20	
Nitrate as N	2.76	0.099	2.50	"		2.73			1.09	20	
Matrix Spike (1I23039-MS1)			**Source: 2109390-01**								
Chloride	13.7			mg/L	12.0	1.06	105	76.2-122			
Nitrate as N	2.77			"	2.71	0.546	81.9	60.8-130			
Matrix Spike Dup (1I23039-MSD1)			**Source: 2109390-01**								
Chloride	13.7			mg/L	12.0	1.06	105	76.2-122	0.387	20	
Nitrate as N	2.86			"	2.71	0.546	85.3	60.8-130	3.20	20	
Batch 1I24028 - Default Prep GenChem											
Blank (1I24028-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I24028 - Default Prep GenChem											
LCS (1I24028-BS1)											
Ammonia as N	5.35	0.04	0.21	mg/L	5.00		107	90-110			
LCS Dup (1I24028-BSD1)											
Ammonia as N	5.27	0.04	0.21	mg/L	5.00		105	90-110	1.51	10	
Duplicate (1I24028-DUP1)			**Source: 2109389-01**								
Ammonia as N	0.12	0.04	0.21	mg/L		0.11			2.60	10	
Matrix Spike (1I24028-MS1)			**Source: 2109452-02**								
Ammonia as N	5.54	0.04	0.21	mg/L	5.00	0.24	106	90-110			
Matrix Spike Dup (1I24028-MSD1)			**Source: 2109452-02**								
Ammonia as N	5.48	0.04	0.21	mg/L	5.00	0.24	105	90-110	1.09	10	
Batch 1I24031 - Default Prep GenChem											
LCS (1I24031-BS1)											
Specific Conductance (EC)	1430			uS/cm	1410		101	90-110			
Duplicate (1I24031-DUP1)			**Source: 2109390-04**								
Specific Conductance (EC)	704			umhos/cm @25.0 C		701			0.427	10	
Duplicate (1I24031-DUP2)			**Source: 2109457-06**								
Specific Conductance (EC)	723			umhos/cm @25.0 C		722			0.138	10	
Batch 1I27043 - Default Prep GenChem											
Duplicate (1I27043-DUP1)			**Source: 2109390-01**								
pH	6.23			pH Units		6.14			1.46	5	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27043 - Default Prep GenChem											
Duplicate (1I27043-DUP2)			**Source: 2109469-04**								
pH	6.78			pH Units		6.81			0.441	5	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J01011 - EPA 200.2 DCN 1017 Rev 10											
Blank (1J01011-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (1J01011-BS1)											
Arsenic [He]	0.098	0.00021	0.00200	mg/L	0.100		98.1	85-115			
Chromium [He]	0.104	0.00043	0.00100	"	0.100		104	85-115			
Lead [He]	0.102	0.00017	0.00100	"	0.100		102	85-115			
Nickel [He]	0.105	0.00016	0.0400	"	0.100		105	85-115			
LCS Dup (1J01011-BSD1)											
Arsenic [He]	0.100	0.00021	0.00200	mg/L	0.100		99.8	85-115	1.71	20	
Chromium [He]	0.104	0.00043	0.00100	"	0.100		104	85-115	0.907	20	
Lead [He]	0.102	0.00017	0.00100	"	0.100		102	85-115	0.0340	20	
Nickel [He]	0.105	0.00016	0.0400	"	0.100		105	85-115	0.488	20	
Matrix Spike (1J01011-MS1)			**Source: 2109390-01**								
Arsenic [He]	0.105	0.00021	0.00200	mg/L	0.100	0.002	102	70-130			
Chromium [He]	0.107	0.00043	0.00100	"	0.100	0.0006	107	70-130			
Lead [He]	0.114	0.00017	0.00100	"	0.100	0.006	108	70-130			
Nickel [He]	0.113	0.00016	0.0400	"	0.100	0.005	108	70-130			
Matrix Spike Dup (1J01011-MSD1)			**Source: 2109390-01**								
Arsenic [He]	0.100	0.00021	0.00200	mg/L	0.100	0.002	98.4	70-130	3.98	20	
Chromium [He]	0.105	0.00043	0.00100	"	0.100	0.0006	104	70-130	2.20	20	
Lead [He]	0.111	0.00017	0.00100	"	0.100	0.006	105	70-130	3.22	20	
Nickel [He]	0.109	0.00016	0.0400	"	0.100	0.005	104	70-130	3.60	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27031 - EPA 3510C DCN 4000 Rev 12											
Blank (1I27031-BLK1)											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	ug/L							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							CC-01
Di-n-octyl phthalate	ND	0.29	1.70	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Pentachlorophenol	ND	0.06	1.00	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
Surrogate: 2,4,6-Tribromophenol	*5.09*			"	*10.0*		*50.9*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.22*			"	*5.00*		*64.4*	*21.3-100*			
Surrogate: 2-Fluorophenol	*5.68*			"	*10.0*		*56.8*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.68*			"	*5.00*		*53.6*	*18.4-100*			
Surrogate: Phenol-d5	*5.37*			"	*10.0*		*53.7*	*10-126*			
Surrogate: Terphenyl-dl4	*4.28*			"	*5.00*		*85.6*	*28.8-100*			
LCS (1I27031-BS1)											
Bis(2-ethylhexyl)phthalate	9.49	0.37	1.08	ug/L	10.0		94.9	42.2-107			
Carbazole	6.81	2.62	7.86	"	10.0		68.1	30.1-145			
4-Chloro-3-methylphenol	8.09	0.27	1.65	"	10.0		80.9	43.1-105			
Dibenzofuran	7.82	0.40	1.20	"	10.0		78.2	25-127			
2,4-Dimethylphenol	6.97	0.19	1.05	"	10.0		69.7	31.6-95.8			
2,4-Dinitrophenol	4.67	1.29	4.32	"	10.0		46.7	22.1-108			CC-03
Di-n-octyl phthalate	6.78	0.29	1.70	"	10.0		67.8	42.9-108			
2-Methylphenol	6.88	0.41	1.24	"	10.0		68.8	15.8-123			
3 & 4-Methylphenol	14.6	1.13	3.39	"	20.0		73.0	11.1-130			
Pentachlorophenol	4.63	0.06	1.00	"	10.0		46.3	28.8-111			
2,4,6-Trichlorophenol	8.71	0.44	1.32	"	10.0		87.1	44.4-104			
Surrogate: 2,4,6-Tribromophenol	*8.02*			"	*10.0*		*80.2*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.76*			"	*5.00*		*75.2*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.18*			"	*10.0*		*61.8*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.61*			"	*5.00*		*72.2*	*18.4-100*			
Surrogate: Phenol-d5	*7.03*			"	*10.0*		*70.3*	*10-126*			
Surrogate: Terphenyl-dl4	*4.09*			"	*5.00*		*81.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27031 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1I27031-BSD1)											
Bis(2-ethylhexyl)phthalate	9.99	0.37	1.08	ug/L	10.0		99.9	42.2-107	5.13	82	
Carbazole	7.67	2.62	7.86	"	10.0		76.7	30.1-145	11.9	40	
4-Chloro-3-methylphenol	9.03	0.27	1.65	"	10.0		90.3	43.1-105	11.0	73	
Dibenzofuran	8.06	0.40	1.20	"	10.0		80.6	25-127	3.02	40	
2,4-Dimethylphenol	7.49	0.19	1.05	"	10.0		74.9	31.6-95.8	7.19	58	
2,4-Dinitrophenol	7.12	1.29	4.32	"	10.0		71.2	22.1-108	41.6	132	CC-03
Di-n-octyl phthalate	7.73	0.29	1.70	"	10.0		77.3	42.9-108	13.1	69	
2-Methylphenol	7.32	0.41	1.24	"	10.0		73.2	15.8-123	6.20	40	
3 & 4-Methylphenol	15.6	1.13	3.39	"	20.0		77.8	11.1-130	6.37	40	
Pentachlorophenol	6.17	0.06	1.00	"	10.0		61.7	28.8-111	28.5	86	
2,4,6-Trichlorophenol	8.77	0.44	1.32	"	10.0		87.7	44.4-104	0.687	58	
Surrogate: 2,4,6-Tribromophenol	*9.37*			"	*10.0*		*93.7*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.59*			"	*5.00*		*71.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.05*			"	*10.0*		*60.5*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.88*			"	*5.00*		*77.6*	*18.4-100*			
Surrogate: Phenol-d5	*7.25*			"	*10.0*		*72.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.94*			"	*5.00*		*78.8*	*28.8-100*			
Duplicate (1I27031-DUP1)			**Source: 2109390-01**								
Bis(2-ethylhexyl)phthalate	ND	0.39	1.16	ug/L		ND				45	
Carbazole	ND	2.80	8.41	"		ND				45	
4-Chloro-3-methylphenol	ND	0.29	1.76	"		ND				45	
Dibenzofuran	ND	0.43	1.28	"		ND				45	
2,4-Dimethylphenol	ND	0.20	1.12	"		ND				45	
2,4-Dinitrophenol	ND	1.38	4.62	"		ND				45	CC-01
Di-n-octyl phthalate	ND	0.31	1.82	"		ND				45	
2-Methylphenol	ND	0.44	1.33	"		ND				45	
3 & 4-Methylphenol	ND	1.21	3.63	"		ND				45	
Pentachlorophenol	ND	0.07	1.07	"		ND				45	
2,4,6-Trichlorophenol	ND	0.47	1.41	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*7.07*			"	*10.7*		*66.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.97*			"	*5.35*		*55.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*3.20*			"	*10.7*		*29.9*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.50*			"	*5.35*		*46.8*	*18.4-100*			
Surrogate: Phenol-d5	*2.19*			"	*10.7*		*20.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.53*			"	*5.35*		*66.0*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Blank (1I27038-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							CC-02
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*72.3*			"	*100*		*72.3*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*41.1*			"	*50.0*		*82.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*56.9*			"	*100*		*56.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.9*			"	*50.0*		*59.7*	*10-100*			
Surrogate: Phenol-d5	*59.1*			"	*100*		*59.1*	*10-112*			
Surrogate: Terphenyl-dl4	*51.3*			"	*50.0*		*103*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
LCS (1I27038-BS1)											
Acenaphthene	75.7	1.13	10.0	ug/L	100		75.7	36.1-108			
Acenaphthylene	76.9	1.07	10.0	"	100		76.9	34.6-109			
Anthracene	75.8	0.99	10.0	"	100		75.8	36.4-106			
Benzo (a) anthracene	55.8	0.87	10.0	"	100		55.8	42.9-101			
Benzo (b) fluoranthene	70.5	1.03	10.0	"	100		70.5	43.7-105			
Benzo (k) fluoranthene	64.6	1.01	10.0	"	100		64.6	38.1-112			
Benzo (a) pyrene	76.3	0.98	10.0	"	100		76.3	46.5-104			
Bis(2-ethylhexyl)phthalate	81.0	1.14	10.0	"	100		81.0	25.1-113			
Carbazole	93.3	0.90	10.0	"	100		93.3	5.43-162			
4-Chloro-3-methylphenol	52.7	1.04	10.0	"	100		52.7	39.1-106			
Chrysene	84.3	0.92	10.0	"	100		84.3	43.2-103			
Dibenz (a,h) anthracene	71.0	0.67	10.0	"	100		71.0	31-119			
Dibenzofuran	96.1	1.04	10.0	"	100		96.1	37.6-110			
2,4-Dimethylphenol	45.6	0.84	10.0	"	100		45.6	36-100			
2,4-Dinitrophenol	49.9	3.05	10.0	"	100		49.9	10.5-124			
Di-n-octyl phthalate	102	1.35	10.0	"	100		102	33.6-111			CC-06
Fluoranthene	86.0	0.93	10.0	"	100		86.0	26.4-121			
Fluorene	82.3	1.01	10.0	"	100		82.3	36.9-109			
Indeno (1,2,3-cd) pyrene	67.0	0.89	10.0	"	100		67.0	35.6-116			
2-Methylnaphthalene	60.9	1.12	10.0	"	100		60.9	34.3-102			
2-Methylphenol	68.2	0.88	10.0	"	100		68.2	35-101			
3 & 4-Methylphenol	140	0.87	10.0	"	200		70.1	29.4-107			
Naphthalene	55.8	1.09	10.0	"	100		55.8	36.8-100			
Pentachlorophenol	45.2	2.72	10.0	"	100		45.2	15.1-115			
Phenanthrene	81.1	0.93	10.0	"	100		81.1	36.4-110			
Pyrene	57.5	1.09	10.0	"	100		57.5	23.9-114			
2,4,6-Trichlorophenol	57.6	2.58	10.0	"	100		57.6	36-104			
Surrogate: 2,4,6-Tribromophenol	*62.9*			"	*100*		*62.9*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.2*			"	*50.0*		*70.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*55.3*			"	*100*		*55.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*23.0*			"	*50.0*		*46.1*	*10-100*			
Surrogate: Phenol-d5	*59.4*			"	*100*		*59.4*	*10-112*			
Surrogate: Terphenyl-dl4	*33.9*			"	*50.0*		*67.8*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (1I27038-BSD1)											
Acenaphthene	90.7	1.13	10.0	ug/L	100		90.7	36.1-108	18.0	40	
Acenaphthylene	93.2	1.07	10.0	"	100		93.2	34.6-109	19.2	40	
Anthracene	97.8	0.99	10.0	"	100		97.8	36.4-106	25.3	40	
Benzo (a) anthracene	64.5	0.87	10.0	"	100		64.5	42.9-101	14.6	40	
Benzo (b) fluoranthene	78.0	1.03	10.0	"	100		78.0	43.7-105	10.2	40	
Benzo (k) fluoranthene	74.4	1.01	10.0	"	100		74.4	38.1-112	14.0	40	
Benzo (a) pyrene	89.0	0.98	10.0	"	100		89.0	46.5-104	15.3	40	
Bis(2-ethylhexyl)phthalate	96.2	1.14	10.0	"	100		96.2	25.1-113	17.2	40	
Carbazole	66.5	0.90	10.0	"	100		66.5	5.43-162	33.6	40	
4-Chloro-3-methylphenol	61.0	1.04	10.0	"	100		61.0	39.1-106	14.5	40	
Chrysene	69.0	0.92	10.0	"	100		69.0	43.2-103	20.0	40	
Dibenz (a,h) anthracene	76.4	0.67	10.0	"	100		76.4	31-119	7.27	40	
Dibenzofuran	65.5	1.04	10.0	"	100		65.5	37.6-110	37.9	40	
2,4-Dimethylphenol	57.3	0.84	10.0	"	100		57.3	36-100	22.8	40	
2,4-Dinitrophenol	59.4	3.05	10.0	"	100		59.4	10.5-124	17.4	40	
Di-n-octyl phthalate	105	1.35	10.0	"	100		105	33.6-111	3.40	40	CC-06
Fluoranthene	56.8	0.93	10.0	"	100		56.8	26.4-121	40.9	40	L3
Fluorene	100	1.01	10.0	"	100		100	36.9-109	19.9	40	
Indeno (1,2,3-cd) pyrene	72.2	0.89	10.0	"	100		72.2	35.6-116	7.36	40	
2-Methylnaphthalene	80.1	1.12	10.0	"	100		80.1	34.3-102	27.3	40	
2-Methylphenol	91.2	0.88	10.0	"	100		91.2	35-101	28.8	40	
3 & 4-Methylphenol	186	0.87	10.0	"	200		93.2	29.4-107	28.3	40	
Naphthalene	68.7	1.09	10.0	"	100		68.7	36.8-100	20.7	40	
Pentachlorophenol	54.1	2.72	10.0	"	100		54.1	15.1-115	17.9	40	
Phenanthrene	107	0.93	10.0	"	100		107	36.4-110	27.5	40	
Pyrene	70.5	1.09	10.0	"	100		70.5	23.9-114	20.4	40	
2,4,6-Trichlorophenol	67.3	2.58	10.0	"	100		67.3	36-104	15.6	40	
Surrogate: 2,4,6-Tribromophenol	*75.7*			"	*100*		*75.7*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*41.5*			"	*50.0*		*82.9*	*16.9-105*			
Surrogate: 2-Fluorophenol	*63.3*			"	*100*		*63.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.7*			"	*50.0*		*53.5*	*10-100*			
Surrogate: Phenol-d5	*68.1*			"	*100*		*68.1*	*10-112*			
Surrogate: Terphenyl-dl4	*44.6*			"	*50.0*		*89.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Duplicate (1I27038-DUP1)		**Source: 2109427-03**									
Acenaphthene	353	11.8	104	ug/L		287			20.8	45	
Acenaphthylene	ND	1.11	10.4	"		ND				45	
Anthracene	ND	1.03	10.4	"		ND				45	
Benzo (a) anthracene	ND	0.91	10.4	"		ND				45	
Benzo (b) fluoranthene	ND	1.07	10.4	"		ND				45	
Benzo (k) fluoranthene	ND	1.05	10.4	"		ND				45	
Benzo (a) pyrene	ND	1.02	10.4	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.4	"		ND				45	
Carbazole	266	9.34	104	"		244			8.68	45	
4-Chloro-3-methylphenol	ND	1.08	10.4	"		ND				45	
Chrysene	ND	0.96	10.4	"		ND				45	
Dibenz (a,h) anthracene	ND	0.70	10.4	"		ND				45	
Dibenzofuran	91.2	1.08	10.4	"		108			16.8	45	
2,4-Dimethylphenol	ND	0.88	10.4	"		ND				45	
2,4-Dinitrophenol	ND	3.18	10.4	"		ND				45	
Di-n-octyl phthalate	ND	1.41	10.4	"		ND				45	
Fluoranthene	14.8	0.97	10.4	"		8.47			54.4	45	P3
Fluorene	105	1.05	10.4	"		130			21.2	45	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"		ND				45	
2-Methylnaphthalene	ND	1.17	10.4	"		ND				45	
2-Methylphenol	ND	0.92	10.4	"		ND				45	
3 & 4-Methylphenol	ND	0.91	10.4	"		ND				45	
Naphthalene	380	11.4	104	"		239			45.5	45	P3
Pentachlorophenol	ND	2.83	10.4	"		ND				45	
Phenanthrene	80.7	0.97	10.4	"		54.0			39.5	45	
Pyrene	ND	1.14	10.4	"		ND				45	
2,4,6-Trichlorophenol	ND	2.69	10.4	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*83.3*			"	*104*		*80.0*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*38.2*			"	*52.1*		*73.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*68.6*			"	*104*		*65.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.6*			"	*52.1*		*51.2*	*10-100*			
Surrogate: Phenol-d5	*62.3*			"	*104*		*59.8*	*10-112*			
Surrogate: Terphenyl-dl4	*40.8*			"	*52.1*		*78.3*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (1I27038-MS1)		**Source: 2109427-03**									
Acenaphthene	354	12.0	106	ug/L	106	287	63.0	10-121			
Acenaphthylene	52.0	1.14	10.6	"	106	ND	48.9	19-110			
Anthracene	55.3	1.05	10.6	"	106	ND	52.0	16.1-116			
Benzo (a) anthracene	66.0	0.93	10.6	"	106	ND	62.1	27.7-107			
Benzo (b) fluoranthene	72.9	1.10	10.6	"	106	ND	68.5	23.3-117			
Benzo (k) fluoranthene	75.9	1.07	10.6	"	106	ND	71.4	20.4-113			
Benzo (a) pyrene	85.6	1.04	10.6	"	106	ND	80.5	34.6-101			
Bis(2-ethylhexyl)phthalate	70.9	1.21	10.6	"	106	ND	66.7	10-108			
Carbazole	336	9.54	106	"	106	244	85.8	10-159			
4-Chloro-3-methylphenol	61.3	1.11	10.6	"	106	ND	57.6	19.8-110			
Chrysene	69.1	0.98	10.6	"	106	ND	65.0	25.6-113			
Dibenz (a,h) anthracene	92.6	0.71	10.6	"	106	ND	87.0	15.9-129			
Dibenzofuran	196	11.1	106	"	106	108	82.9	10-115			
2,4-Dimethylphenol	56.4	0.89	10.6	"	106	ND	53.0	17.2-115			
2,4-Dinitrophenol	83.4	3.24	10.6	"	106	ND	78.4	10-129			
Di-n-octyl phthalate	62.1	1.44	10.6	"	106	ND	58.4	21.1-102			
Fluoranthene	55.1	0.99	10.6	"	106	8.47	43.8	15-119			
Fluorene	205	10.7	106	"	106	130	71.2	10-125			
Indeno (1,2,3-cd) pyrene	84.0	0.94	10.6	"	106	ND	79.0	18.2-129			
2-Methylnaphthalene	50.6	1.19	10.6	"	106	ND	47.6	10-117			
2-Methylphenol	66.4	0.94	10.6	"	106	ND	62.4	10-106			
3 & 4-Methylphenol	139	0.93	10.6	"	213	ND	65.4	10-102			
Naphthalene	324	11.6	106	"	106	239	79.8	19.6-98.1			
Pentachlorophenol	123	2.89	10.6	"	106	ND	116	10-125			
Phenanthrene	78.7	0.99	10.6	"	106	54.0	23.2	16.9-120			
Pyrene	51.8	1.16	10.6	"	106	ND	48.6	12.3-105			
2,4,6-Trichlorophenol	68.1	2.74	10.6	"	106	ND	64.0	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*88.8*			"	*106*		*83.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.6*			"	*53.2*		*66.8*	*16.9-105*			
Surrogate: 2-Fluorophenol	*68.3*			"	*106*		*64.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.1*			"	*53.2*		*56.6*	*10-100*			
Surrogate: Phenol-d5	*63.7*			"	*106*		*59.9*	*10-112*			
Surrogate: Terphenyl-dl4	*37.5*			"	*53.2*		*70.4*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 11:52

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J01005 - EPA 5030B											
Blank (1J01005-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*48.6*			"	*50.0*		*97.1*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.2*			"	*50.0*		*106*	*87.4-116*			
Surrogate: Toluene-d8	*51.5*			"	*50.0*		*103*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*47.4*			"	*50.0*		*94.8*	*80.4-119*			
LCS (1J01005-BS1)											
Benzene	20.3	0.258	5.00	ug/L	20.0		102	64.2-144			
Ethylbenzene	20.4	0.190	5.00	"	20.0		102	64.9-150			
Surrogate: Dibromofluoromethane	*48.5*			"	*50.0*		*97.1*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*			"	*50.0*		*99.9*	*87.4-116*			
Surrogate: Toluene-d8	*50.3*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*49.3*			"	*50.0*		*98.7*	*80.4-119*			
LCS Dup (1J01005-BSD1)											
Benzene	20.8	0.258	5.00	ug/L	20.0		104	64.2-144	2.19	30	
Ethylbenzene	21.3	0.190	5.00	"	20.0		106	64.9-150	4.42	30	
Surrogate: Dibromofluoromethane	*48.7*			"	*50.0*		*97.4*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*48.7*			"	*50.0*		*97.3*	*87.4-116*			
Surrogate: Toluene-d8	*50.3*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.5*			"	*50.0*		*101*	*80.4-119*			
Matrix Spike (1J01005-MS1)		**Source: 2109427-03**									
Benzene	22.1	0.258	5.00	ug/L	20.0	ND	111	70-149			
Ethylbenzene	26.3	0.190	5.00	"	20.0	5.76	103	70.2-150			
Surrogate: Dibromofluoromethane	*48.4*			"	*50.0*		*96.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.0*			"	*50.0*		*98.0*	*87.4-116*			
Surrogate: Toluene-d8	*49.8*			"	*50.0*		*99.7*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.8*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J01005 - EPA 5030B											
Matrix Spike Dup (1J01005-MSD1)		**Source: 2109427-03**									
Benzene	21.4	0.258	5.00	ug/L	20.0	ND	107	70-149	3.63	35	
Ethylbenzene	25.5	0.190	5.00	"	20.0	5.76	98.5	70.2-150	3.21	35	
Surrogate: Dibromofluoromethane	*47.4*			"	*50.0*		*94.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.2*			"	*50.0*		*98.3*	*87.4-116*			
Surrogate: Toluene-d8	*51.0*			"	*50.0*		*102*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*49.8*			"	*50.0*		*99.6*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 12/22/2021 11:52

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2022
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2022
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2021
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2021
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2022
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2022
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2022
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/09/2022
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2022
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2022
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2022

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 11:52

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Charles L Vorhoff	CLV
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Howard Mitch Spicer	HMS
Kristy L. Pierce	KLP
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Stella S Kleist	SSK
Teresa Meins	TKM
Zain A Kleist	ZAK

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 2109390

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address: EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting
Our normal turn around time is 10 working days
__Normal __Next Day* __2nd Day* __Other*_____
*All rush order requests must be prior approved.
__Phone __Mail __Fax __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 3RD QTR
Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	METALS	BNA	VOA	Gamma
RW-1	9-21-21/13:00	W	9		X	X	X	X	X	X	X
RW-2	9-21-21/13:10	W	9		X	X	X	X	X	X	X
RC-1	9-21-21/14:00	W	7	G	X	X	X	X	X	X	X
RC-1A	9-21-21/14:15	W	7	G	X	X	X	X	X	X	X
TBV # 6793	9-21-21/13:00	W	2	G						X	

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 5 Cooler #_____ **Receipt Temp Corrected(°C)**
Date & Time _____ By: _____ Sample_____ Blank X Cooler_____
All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	9-21-21	16:02
Received by	Sarah Tomek		MM	09/21/21	1602
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #2 1.1°C
client cooler #3 0.0°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS
LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 22, 2021

Ethan Allen

Work Order # : 2109427

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 09/23/2021 08:35. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/RW-4	2109427-01	Water	09/22/2021 15:45	*Jeff Gonsoulin*	09/23/2021 08:35
Mobile/RW-5	2109427-02	Water	09/22/2021 15:00	*Jeff Gonsoulin*	09/23/2021 08:35
Mobile/RC-2A	2109427-03	Water	09/22/2021 14:30	*Jeff Gonsoulin*	09/23/2021 08:35
Mobile/RC-3A	2109427-04	Water	09/22/2021 14:00	*Jeff Gonsoulin*	09/23/2021 08:35
Mobile/RW-3A	2109427-05	Water	09/22/2021 10:45	*Jeff Gonsoulin*	09/23/2021 08:35
Mobile/RC-2	2109427-06	Water	09/22/2021 10:10	*Jeff Gonsoulin*	09/23/2021 08:35
Mobile/RC-3	2109427-07	Water	09/22/2021 09:55	*Jeff Gonsoulin*	09/23/2021 08:35
Trip Blank TBV#6776	2109427-08	Water	09/22/2021 09:55	*Micro Methods*	09/23/2021 08:35

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Sample Receipt Conditions

Date/Time Received: 9/23/2021 8:35:00AM
Received by: Sarah E. Tomek
Date/Time Logged: 9/23/2021 8:58:00AM
Cooler ID: #1102

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 1.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Cooler ID: client cooler #1 **Receipt Temperature:** 0.0 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Cooler ID: client cooler #2 **Receipt Temperature:** -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS
LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

Report resubmitted with revised format at client's request - HMS 12/22/2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

B-06 Possible laboratory contamination.

Naphthalene

1I28028-BLK1

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol

1I27031-BLK1, 1I27031-DUP1

CC-02 ICV exceeds the acceptance limit. Sample results reported from calibration were below the reporting limits.

Di-n-octyl phthalate

1I27038-BLK1, 2109427-03[Mobile/RC-2A]

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol

1I27031-BS1, 1I27031-BSD1

CC-06 ICV exceeds the acceptance limit. QC results reported from calibration were within acceptance limits.

Di-n-octyl phthalate

1I27038-BS1, 1I27038-BSD1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 4-Chloro-3-methylphenol, Acenaphthene, Bis(2-ethylhexyl)phthalate, Carbazole, Fluoranthene, Fluorene, Pyrene

2109427-04[Mobile/RC-3A], 2109427-07[Mobile/RC-3], 2109427-01[Mobile/RW-4], 2109427-02[Mobile/RW-5]

L3 LCS/LCSD Precision Limit exceeded.

Fluoranthene

1I27038-BSD1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Anthracene, Benzo (a) pyrene, Benzo (k) fluoranthene, Fluoranthene, Indeno (1,2,3-cd) pyrene, Naphthalene

1I28028-DUP1, 1I27038-DUP1

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl, Nitrobenzene-d5

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

1I28028-DUP1, 2109427-05[Mobile/RW-3A]

Anions-SM 4110B 2011

Qualifiers:

HT-21 The sample was originally analyzed within the recommended hold time. Due to a QC issue or Result Check the sample was reanalyzed outside the recommended Hold Time.

Nitrate as N

2109427-01[Mobile/RW-4], 2109427-02[Mobile/RW-5], 2109427-03[Mobile/RC-2A], 2109427-04[Mobile/RC-3A], 2109427-05[Mobile/ RW-3A], 2109427-06[Mobile/RC-2], 2109427-07[Mobile/RC-3]

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

Analyte & Samples(s) Qualified:

, pH

2109427-01[Mobile/RW-4], 2109427-02[Mobile/RW-5], 2109427-03[Mobile/RC-2A], 2109427-04[Mobile/RC-3A], 2109427-05[Mobile/ RW-3A], 2109427-06[Mobile/RC-2], 2109427-07[Mobile/RC-3]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Mobile/RW-4

2109427-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.50**	0.02	0.05	ug/L	1.0	1I28028	CRLV	09/28/2021 08:26	09/30/2021 17:19	EPA 8270D	
2-Methylnaphthalene	**0.07**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.07**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	**0.04**	0.02	0.13	"	"	"	CRLV	"	"	"	J
Phenanthrene	**0.07**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.05**	0.03	0.06	"	"	"	CRLV	"	"	"	J
Pyrene	**0.03**	0.02	0.05	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0635	*30.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.127	*60.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.148	*70.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**0.711**	0.095	0.500	mg/L	1.0	1I24032	DLW	09/23/2021 16:19	10/01/2021 05:21	SM 4110B 2011	
Nitrate as N	ND	0.020	0.500	"	"	"	DLW	"	"	"	HT-21
Ammonia as N	ND	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:48	Lachat 10-107-06-1-I	
pH	**6.97**			pH Units	"	1I27043	CRG	09/27/2021 17:37	09/27/2021 17:37	SM 4500-H+B-2011	
Specific Conductance (EC)	**57**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I27029	SCH	09/27/2021 08:30	10/08/2021 14:43	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00105**	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Mobile/RW-4

2109427-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	1I27031	CRLV	09/27/2021 09:52	09/27/2021 20:48	EPA 8270D	
Carbazole	ND	2.67	8.02	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.19	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.32	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.29	1.73	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.06	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	5.90	*57.8 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.42	*47.4 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.70	*26.5 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.96	*38.4 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.57	*15.4 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.93	*57.4 %*	*28.8-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 22:28	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.2	*88.5 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.5	*97.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	53.1	*106 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.1	*96.2 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Mobile/RW-5

2109427-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.29**	0.02	0.05	ug/L	1.0	1I28028	CRLV	09/28/2021 08:26	09/30/2021 18:00	EPA 8270D	
2-Methylnaphthalene	**0.06**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.06**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	**0.03**	0.02	0.12	"	"	"	CRLV	"	"	"	J
Phenanthrene	**0.06**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.04**	0.03	0.06	"	"	"	CRLV	"	"	"	J
Pyrene	**0.03**	0.02	0.05	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0518	*25.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.114	*55.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.104	*50.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**0.950**	0.162	0.500	mg/L	1.0	1I24032	DLW	10/01/2021 05:53	10/01/2021 05:53	SM 4110B 2011	
Nitrate as N	**1.66**	0.037	0.500	"	"	"	DLW	"	"	"	HT-21
Ammonia as N	ND	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:49	Lachat 10-107-06-1-I	
pH	**6.88**			pH Units	"	1I27043	CRG	09/27/2021 17:40	09/27/2021 17:40	SM 4500-H+B-2011	
Specific Conductance (EC)	**95**			umho s/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I27029	SCH	09/27/2021 08:30	10/08/2021 14:48	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	**0.00162**	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RW-5

2109427-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.10	ug/L	1.0	1I27031	CRLV	09/27/2021 09:52	09/27/2021 21:24	EPA 8270D	
Carbazole	ND	2.67	8.02	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.68	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.22	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.19	1.07	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.32	4.41	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.29	1.73	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.42	1.27	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.15	3.46	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.06	1.02	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.45	1.35	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	4.86	*47.6 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.81	*35.4 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.37	*23.2 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.66	*32.6 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.68	*16.5 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.59	*50.8 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 22:52	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.3	*88.6 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	50.2	*100 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.6	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.6	*97.1 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-2A

2109427-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**67.2**	0.378	2.00	mg/L	4.0	1I24032	DLW	09/23/2021 16:19	10/01/2021 06:57	SM 4110B 2011	
Nitrate as N	ND	0.079	2.00	"	"	"	DLW	"	"	"	HT-2
Ammonia as N	**0.63**	0.04	0.21	"	1.0	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:50	Lachat 10-107-06-1-I	
pH	**6.07**			pH Units	"	1I27043	CRG	09/27/2021 17:45	09/27/2021 17:45	SM 4500-H+B-2011	
Specific Conductance (EC)	**38**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I27029	SCH	09/27/2021 08:30	10/08/2021 14:52	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Mobile/RC-2A

2109427-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**287**	11.6	103	ug/L	10.0	1I27038	CRLV	09/27/2021 12:30	10/05/2021 00:25	EPA 8270D	
Acenaphthylene	ND	1.10	10.3	"	1.0	"	CRLV	"	09/30/2021 20:02	"	
Anthracene	ND	1.01	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.89	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.06	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.04	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.00	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.17	10.3	"	"	"	CRLV	"	"	"	
Carbazole	**244**	9.20	103	"	10.0	"	CRLV	"	10/05/2021 00:25	"	
4-Chloro-3-methylphenol	ND	1.07	10.3	"	1.0	"	CRLV	"	09/30/2021 20:02	"	
Chrysene	ND	0.95	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	**108**	10.7	103	"	10.0	"	CRLV	"	10/05/2021 00:25	"	
2,4-Dimethylphenol	ND	0.86	10.3	"	1.0	"	CRLV	"	09/30/2021 20:02	"	
2,4-Dinitrophenol	ND	3.13	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.38	10.3	"	"	"	CRLV	"	"	"	CC-02
Fluoranthene	**8.47**	0.96	5.13	"	"	"	CRLV	"	"	"	
Fluorene	**130**	10.4	103	"	10.0	"	CRLV	"	10/05/2021 00:25	"	
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"	1.0	"	CRLV	"	09/30/2021 20:02	"	
2-Methylnaphthalene	ND	1.15	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	**239**	11.2	103	"	10.0	"	CRLV	"	10/05/2021 00:25	"	
Pentachlorophenol	ND	2.79	10.3	"	1.0	"	CRLV	"	09/30/2021 20:02	"	
Phenanthrene	**54.0**	0.95	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.65	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	60.3	*58.8 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	34.0	*66.3 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	56.7	*55.3 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	20.7	*40.4 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	58.9	*57.5 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	29.6	*57.7 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-2A

2109427-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 19:18	EPA 8260D	
Ethylbenzene	**5.76**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	47.5	*94.9 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	48.0	*96.0 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	50.5	*101 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.1	*100 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-3A

2109427-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**92.6**	0.946	5.00	mg/L	10.0	1I24032	DLW	09/23/2021 16:19	10/01/2021 08:01	SM 4110B 2011	
Nitrate as N	ND	0.020	0.500	"	1.0	"	DLW	"	10/01/2021 07:29	"	HT-2
Ammonia as N	**0.82**	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:51	Lachat 10-107-06-1-I	
pH	**5.92**			pH Units	"	1I27043	CRG	09/27/2021 17:47	09/27/2021 17:47	SM 4500-H+B-2011	
Specific Conductance (EC)	**453**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I27029	SCH	09/27/2021 08:30	10/08/2021 14:56	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Mobile/RC-3A

2109427-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**45.5**	1.17	10.4	ug/L	1.0	1I27038	CRLV	09/27/2021 12:30	10/05/2021 03:48	EPA 8270D	
Acenaphthylene	ND	1.11	10.4	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.02	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.90	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.07	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.05	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.01	10.4	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	**7.50**	1.18	10.4	"	"	"	CRLV	"	"	"	J
Carbazole	**5.30**	0.93	10.4	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	1.08	10.4	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.96	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.4	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.08	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**2.31**	0.87	10.4	"	"	"	CRLV	"	"	"	J
2,4-Dinitrophenol	ND	3.16	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.40	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	**7.68**	0.97	10.4	"	"	"	CRLV	"	"	"	J
Fluorene	**27.0**	1.05	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.16	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.91	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.90	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	**33.4**	1.13	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.82	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.96	10.4	"	"	"	CRLV	"	"	"	
Pyrene	**3.53**	1.13	10.4	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.67	10.4	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	94.1	*90.8 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	32.8	*63.3 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	55.9	*54.0 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	31.7	*61.2 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	59.8	*57.7 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	33.5	*64.6 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 23:15	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-3A

2109427-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.1	*88.2 %*	*83.9-122*	*1J01005*	BSF	*09/30/2021 08:00*	"	"	
1,2-Dichloroethane-d4	49.6	*99.1 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.2	*104 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.9	*97.8 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Mobile/RW-3A

2109427-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**541**	22.1	51.0	ug/L	1000.0	1I28028	CRLV	09/28/2021 08:26	10/05/2021 16:14	EPA 8270D	
2-Methylnaphthalene	**235**	51.0	51.0	"	"	"	CRLV	"	"	"	
Acenaphthylene	**17.3**	1.21	6.12	"	100.0	"	CRLV	"	09/30/2021 21:24	"	
Acenaphthene	**571**	22.1	51.0	"	1000.0	"	CRLV	"	10/05/2021 16:14	"	
Fluorene	**286**	17.1	122	"	"	"	CRLV	"	"	"	
Phenanthrene	**1530**	156	612	"	10000.0	"	CRLV	"	10/07/2021 00:25	"	
Anthracene	**270**	7.81	30.6	"	500.0	"	CRLV	"	10/05/2021 18:17	"	
Fluoranthene	**2550**	262	612	"	10000.0	"	CRLV	"	10/07/2021 00:25	"	
Pyrene	**1840**	171	510	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**520**	25.2	61.2	"	1000.0	"	CRLV	"	10/05/2021 16:14	"	
Chrysene	**694**	30.5	51.0	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**908**	26.2	51.0	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**561**	25.2	51.0	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**245**	22.1	61.2	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**81.6**	25.2	51.0	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**20.4**	17.9	20.4	"	500.0	"	CRLV	"	10/05/2021 18:17	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.00	*%*	*11.7-131*	"	CRLV	"	*10/01/2021 22:05*	"	*SR01*
Nitrobenzene-d5	0.00	*%*	*19.6-113*	"	CRLV	"	"	"	*SR01*
Terphenyl-dl4	0.0816	*40.0 %*	*11.3-166*	"	CRLV	"	*10/01/2021 02:51*	"	

Classical Chemistry Parameters											
Chloride	**20.9**	0.095	0.500	mg/L	1.0	1I24032	DLW	09/23/2021 16:19	10/01/2021 08:32	SM 4110B 2011	
Nitrate as N	**0.820**	0.020	0.500	"	"	"	DLW	"	"	"	HT-2
Ammonia as N	**9.23**	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:52	Lachat 10-107-06-1-I	
pH	**7.37**			pH Units	"	1I27043	CRG	09/27/2021 17:49	09/27/2021 17:49	SM 4500-H+B-2011	
Specific Conductance (EC)	**422**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	**0.00207**	0.00021	0.00200	mg/L	1.0	1I27029	SCH	09/27/2021 08:30	10/08/2021 15:00	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	**0.00112**	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RW-3A

2109427-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	3.76	11.1	ug/L	10.0	1I27031	CRLV	09/27/2021 09:52	10/06/2021 13:29	EPA 8270D	
Carbazole	**117**	27.0	81.0	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.70	"	1.0	"	CRLV	"	09/27/2021 21:59	"	
Dibenzofuran	**276**	41.1	124	"	100.0	"	CRLV	"	09/29/2021 10:28	"	
2,4-Dimethylphenol	**1.08**	0.20	1.08	"	1.0	"	CRLV	"	09/27/2021 21:59	"	
2,4-Dinitrophenol	ND	1.33	4.45	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	2.97	17.5	"	10.0	"	CRLV	"	10/06/2021 13:29	"	
2-Methylphenol	ND	0.43	1.28	"	1.0	"	CRLV	"	09/27/2021 21:59	"	
3 & 4-Methylphenol	**4.49**	1.16	3.49	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.66	10.3	"	10.0	"	CRLV	"	10/06/2021 13:29	"	
2,4,6-Trichlorophenol	ND	0.45	1.36	"	1.0	"	CRLV	"	09/27/2021 21:59	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	3.40	*33.0 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	1.45	*28.2 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	1.80	*17.5 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.65	*32.0 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.41	*13.7 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	4.23	*82.0 %*	*28.8-100*	"	CRLV	"	*10/06/2021 13:29*	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	09/30/2021 23:39	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.1	*88.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.6	*99.2 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.0	*104 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.2	*100 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-2

2109427-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**30.6**	0.189	1.00	mg/L	2.0	1I24032	DLW	09/23/2021 16:19	10/01/2021 10:08	SM 4110B 2011	
Nitrate as N	**2.36**	0.020	0.500	"	1.0	"	DLW	"	10/01/2021 09:36	"	HT-21
Ammonia as N	**2.23**	0.04	0.21	"	"	1I24028	CRG	09/24/2021 11:30	09/24/2021 12:54	Lachat 10-107-06-1-I	
pH	**7.03**			pH Units	"	1I27043	CRG	09/27/2021 17:53	09/27/2021 17:53	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**297**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I27029	SCH	09/27/2021 08:30	10/08/2021 15:04	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00118**	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Mobile/RC-2

2109427-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.16	10.3	ug/L	1.0	1I27038	CRLV	09/28/2021 12:00	10/05/2021 04:22	EPA 8270D	
Acenaphthylene	ND	1.10	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.01	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	ND	0.89	10.3	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	1.06	10.3	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	1.04	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	1.00	10.3	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.17	10.3	"	"	"	CRLV	"	"	"	
Carbazole	ND	0.92	10.3	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.95	10.3	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.69	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.86	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.13	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.38	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	ND	0.96	10.3	"	"	"	CRLV	"	"	"	
Fluorene	ND	1.04	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.15	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.89	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.79	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.95	10.3	"	"	"	CRLV	"	"	"	
Pyrene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.65	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	86.6	*84.5 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	30.9	*60.3 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	61.0	*59.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	29.9	*58.3 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	57.0	*55.5 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	25.1	*48.9 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	10/01/2021 00:03	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-2

2109427-06 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.5	*89.0 %*	*83.9-122*	*1J01005*	BSF	*09/30/2021 08:00*	"	"	
1,2-Dichloroethane-d4	49.8	*99.6 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.0	*104 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.6	*97.2 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-3

2109427-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**84.5**	0.378	2.00	mg/L	4.0	1I24032	DLW	09/23/2021 16:19	10/01/2021 11:34	SM 4110B 2011	
Nitrate as N	ND	0.020	0.500	"	1.0	"	DLW	"	10/01/2021 10:40	"	HT-21
Ammonia as N	**3.07**	0.04	0.21	"	"	1I28055	CRG	09/28/2021 12:04	09/28/2021 14:35	Lachat 10-107-06-1-I	
pH	**6.33**			pH Units	"	1I27043	CRG	09/27/2021 17:59	09/27/2021 17:59	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**405**			umhos/cm @25.0 C	"	1I24031	SSK	09/24/2021 14:40	09/24/2021 16:05	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I27029	SCH	09/27/2021 08:30	10/08/2021 15:08	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-3

2109427-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**7.74**	1.15	10.2	ug/L	1.0	1I27038	CRLV	09/28/2021 12:00	10/05/2021 07:12	EPA 8270D	J
Acenaphthylene	**23.2**	1.09	10.2	"	"	"	CRLV	"	"	"	
Anthracene	**282**	10.0	102	"	10.0	"	CRLV	"	10/05/2021 17:59	"	
Benzo (a) anthracene	**410**	8.83	102	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**283**	10.5	102	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**115**	10.3	102	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**148**	9.91	102	"	"	"	CRLV	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.16	10.2	"	1.0	"	CRLV	"	10/05/2021 07:12	"	
Carbazole	**480**	9.11	102	"	10.0	"	CRLV	"	10/05/2021 17:59	"	
4-Chloro-3-methylphenol	**1.74**	1.06	10.2	"	1.0	"	CRLV	"	10/05/2021 07:12	"	J
Chrysene	**304**	9.37	102	"	10.0	"	CRLV	"	10/05/2021 17:59	"	
Dibenz (a,h) anthracene	**23.1**	0.68	10.2	"	1.0	"	CRLV	"	10/05/2021 07:12	"	
Dibenzofuran	**656**	10.6	102	"	10.0	"	CRLV	"	10/05/2021 17:59	"	
2,4-Dimethylphenol	**24.6**	0.85	10.2	"	1.0	"	CRLV	"	10/05/2021 07:12	"	
2,4-Dinitrophenol	ND	3.10	10.2	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.37	10.2	"	"	"	CRLV	"	"	"	
Fluoranthene	**871**	9.48	102	"	10.0	"	CRLV	"	10/05/2021 17:59	"	
Fluorene	**873**	10.3	102	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**55.1**	0.90	10.2	"	1.0	"	CRLV	"	10/05/2021 07:12	"	
2-Methylnaphthalene	**634**	11.4	102	"	10.0	"	CRLV	"	10/05/2021 17:59	"	
2-Methylphenol	**92.3**	0.89	10.2	"	1.0	"	CRLV	"	10/05/2021 07:12	"	
3 & 4-Methylphenol	**143**	0.89	10.2	"	"	"	CRLV	"	"	"	
Naphthalene	**978**	11.1	102	"	10.0	"	CRLV	"	10/05/2021 17:59	"	
Pentachlorophenol	ND	27.6	102	"	"	"	CRLV	"	"	"	
Phenanthrene	**1210**	9.42	102	"	"	"	CRLV	"	"	"	
Pyrene	**750**	11.1	102	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.62	10.2	"	1.0	"	CRLV	"	10/05/2021 07:12	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	90.3	*88.9 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	31.5	*62.0 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	72.3	*71.2 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	31.8	*62.6 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	69.2	*68.2 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	26.6	*52.4 %*	*10-105*	"	CRLV	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Mobile/RC-3

2109427-07 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**40.3**	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	10/01/2021 00:27	EPA 8260D	
Ethylbenzene	**24.3**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	43.6	*87.3 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.5	*98.9 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.7	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.6	*101 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Trip Blank TBV#6776

2109427-08 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J01005	BSF	09/30/2021 08:00	10/01/2021 00:50	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	43.1	*86.3 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.5	*99.0 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	53.2	*106 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.5	*97.1 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
Blank (1I28028-BLK1)											
Naphthalene	0.07	0.02	0.05	ug/L							B-06
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	0.02	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.180*			"	*0.200*		*90.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.160*			"	*0.200*		*80.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
LCS (1I28028-BS1)											
Naphthalene	0.21	0.02	0.05	ug/L	0.200		105	10-145			
2-Methylnaphthalene	0.17	0.05	0.05	"	0.200		85.0	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.17	0.02	0.05	"	0.200		85.0	10-143			
Fluorene	0.17	0.02	0.12	"	0.200		85.0	10-150			
Phenanthrene	0.17	0.02	0.06	"	0.200		85.0	10-151			
Anthracene	0.14	0.02	0.06	"	0.200		70.0	10-130			
Fluoranthene	0.15	0.03	0.06	"	0.200		75.0	10-155			
Pyrene	0.21	0.02	0.05	"	0.200		105	10-148			
Benzo (a) anthracene	0.15	0.02	0.06	"	0.200		75.0	38.5-141			
Chrysene	0.21	0.03	0.05	"	0.200		105	45.4-150			
Benzo (b) fluoranthene	0.19	0.03	0.05	"	0.200		95.0	33.6-160			
Benzo (k) fluoranthene	0.23	0.02	0.05	"	0.200		115	33-159			
Benzo (a) pyrene	0.18	0.02	0.06	"	0.200		90.0	10-177			
Indeno (1,2,3-cd) pyrene	0.21	0.02	0.17	"	0.200		105	10.7-171			
Dibenz (a,h) anthracene	0.21	0.04	0.16	"	0.200		105	16-164			
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.190*			"	*0.200*		*95.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.190*			"	*0.200*		*95.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1I28028-BSD1)											
Naphthalene	0.19	0.02	0.05	ug/L	0.200		95.0	10-145	10.0	40	
2-Methylnaphthalene	0.17	0.05	0.05	"	0.200		85.0	50-150	0.00	40	
Acenaphthylene	0.12	0.01	0.06	"	0.200		60.0	10-147	15.4	40	
Acenaphthene	0.16	0.02	0.05	"	0.200		80.0	10-143	6.06	40	
Fluorene	0.16	0.02	0.12	"	0.200		80.0	10-150	6.06	40	
Phenanthrene	0.16	0.02	0.06	"	0.200		80.0	10-151	6.06	40	
Anthracene	0.14	0.02	0.06	"	0.200		70.0	10-130	0.00	40	
Fluoranthene	0.16	0.03	0.06	"	0.200		80.0	10-155	6.45	40	
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148	10.0	40	
Benzo (a) anthracene	0.19	0.02	0.06	"	0.200		95.0	38.5-141	23.5	40	
Chrysene	0.24	0.03	0.05	"	0.200		120	45.4-150	13.3	40	
Benzo (b) fluoranthene	0.24	0.03	0.05	"	0.200		120	33.6-160	23.3	40	
Benzo (k) fluoranthene	0.26	0.02	0.05	"	0.200		130	33-159	12.2	40	
Benzo (a) pyrene	0.20	0.02	0.06	"	0.200		100	10-177	10.5	40	
Indeno (1,2,3-cd) pyrene	0.22	0.02	0.17	"	0.200		110	10.7-171	4.65	40	
Dibenz (a,h) anthracene	0.22	0.04	0.16	"	0.200		110	16-164	4.65	40	
Surrogate: 2-Fluorobiphenyl	*0.100*			"	*0.200*		*50.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.190*			"	*0.200*		*95.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.200*			"	*0.200*		*100*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1I28028-DUP1)			**Source: 2109390-02**								
Naphthalene	653	22.1	51.0	ug/L		643			1.57	45	
2-Methylnaphthalene	91.2	0.51	0.51	"		153			50.6	45	
Acenaphthylene	3.16	0.12	0.61	"		2.86			10.2	45	
Acenaphthene	235	22.1	51.0	"		204			14.0	45	
Fluorene	112	17.1	122	"		91.8			20.0	45	
Phenanthrene	321	7.81	30.6	"		214			40.0	45	
Anthracene	56.1	7.81	30.6	"		28.6			65.1	45	P3
Fluoranthene	107	13.1	30.6	"		61.2			54.5	45	P3
Pyrene	71.4	17.1	51.0	"		61.2			15.4	45	
Benzo (a) anthracene	9.18	2.52	6.12	"		8.88			3.39	45	
Chrysene	11.2	3.05	5.10	"		7.55			39.1	45	
Benzo (b) fluoranthene	7.45	0.26	0.51	"		6.12			19.5	45	
Benzo (k) fluoranthene	2.24	0.25	0.51	"		4.08			58.1	45	P3
Benzo (a) pyrene	3.37	0.22	0.61	"		1.84			58.8	45	P3
Indeno (1,2,3-cd) pyrene	0.71	0.25	1.73	"		0.41			54.5	45	P3
Dibenz (a,h) anthracene	ND	0.36	1.63	"		ND				45	
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*0.204*			*11.7-100*			*SR01*
Surrogate: Nitrobenzene-d5	*0.0306*			"	*0.204*		*15.0*	*19.6-113*			*SR01*
Surrogate: Terphenyl-dl4	*0.235*			"	*0.204*		*115*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I24028 - Default Prep GenChem											
Blank (1I24028-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (1I24028-BS1)											
Ammonia as N	5.35	0.04	0.21	mg/L	5.00		107	90-110			
LCS Dup (1I24028-BSD1)											
Ammonia as N	5.27	0.04	0.21	mg/L	5.00		105	90-110	1.51	10	
Duplicate (1I24028-DUP1)			**Source: 2109389-01**								
Ammonia as N	0.12	0.04	0.21	mg/L		0.11			2.60	10	
Matrix Spike (1I24028-MS1)			**Source: 2109452-02**								
Ammonia as N	5.54	0.04	0.21	mg/L	5.00	0.24	106	90-110			
Matrix Spike Dup (1I24028-MSD1)			**Source: 2109452-02**								
Ammonia as N	5.48	0.04	0.21	mg/L	5.00	0.24	105	90-110	1.09	10	
Batch 1I24031 - Default Prep GenChem											
LCS (1I24031-BS1)											
Specific Conductance (EC)	1430			uS/cm	1410		101	90-110			
Duplicate (1I24031-DUP1)			**Source: 2109390-04**								
Specific Conductance (EC)	704			umhos/cm @25.0 C		701			0.427	10	
Duplicate (1I24031-DUP2)			**Source: 2109457-06**								
Specific Conductance (EC)	723			umhos/cm @25.0 C		722			0.138	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I24032 - Default Prep GenChem											
Blank (1I24032-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (1I24032-BLK2)											
Nitrate as N	ND	0.020	0.500	mg/L							
LCS (1I24032-BS1)											
Chloride	9.25	0.095	0.500	mg/L	10.0		92.5	86.3-109			
Nitrate as N	2.24	0.020	0.500	"	2.26		99.1	81.7-111			
LCS (1I24032-BS2)											
Nitrate as N	2.06	0.020	0.500	mg/L	2.26		91.3	81.7-111			
LCS Dup (1I24032-BSD1)											
Chloride	9.78	0.095	0.500	mg/L	10.0		97.8	86.3-109	5.58	20	
Nitrate as N	2.34	0.020	0.500	"	2.26		104	81.7-111	4.41	20	
LCS Dup (1I24032-BSD2)											
Nitrate as N	2.05	0.020	0.500	mg/L	2.26		90.8	81.7-111	0.632	20	
Duplicate (1I24032-DUP1)			**Source: 2109427-05**								
Chloride	21.3	0.095	0.500	mg/L		20.9			2.03	20	
Nitrate as N	0.802	0.020	0.500	"		0.820			2.22	20	
Batch 1I27043 - Default Prep GenChem											
Duplicate (1I27043-DUP1)			**Source: 2109390-01**								
pH	6.23			pH Units		6.14			1.46	5	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27043 - Default Prep GenChem											
Duplicate (1I27043-DUP2)			**Source: 2109469-04**								
pH	6.78			pH Units		6.81			0.441	5	
Batch 1I28055 - Default Prep GenChem											
Blank (1I28055-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (1I28055-BS1)											
Ammonia as N	5.31	0.04	0.21	mg/L	5.00		106	90-110			
LCS Dup (1I28055-BSD1)											
Ammonia as N	5.29	0.04	0.21	mg/L	5.00		106	90-110	0.377	10	
Duplicate (1I28055-DUP1)			**Source: 2109455-01**								
Ammonia as N	693	4.00	21.0	mg/L		706			1.86	10	
Matrix Spike (1I28055-MS1)			**Source: 2109461-01**								
Ammonia as N	5.63	0.04	0.21	mg/L	5.00	0.16	109	90-110			
Matrix Spike Dup (1I28055-MSD1)			**Source: 2109461-01**								
Ammonia as N	5.46	0.04	0.21	mg/L	5.00	0.16	106	90-110	3.07	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27029 - EPA 200.2 DCN 1017 Rev 10											
Blank (1I27029-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (1I27029-BS1)											
Arsenic [He]	0.095	0.00021	0.00200	mg/L	0.100		95.0	85-115			
Chromium [He]	0.097	0.00043	0.00100	"	0.100		96.6	85-115			
Lead [He]	0.094	0.00017	0.00100	"	0.100		93.9	85-115			
Nickel [He]	0.095	0.00016	0.0400	"	0.100		94.6	85-115			
LCS Dup (1I27029-BSD1)											
Arsenic [He]	0.096	0.00021	0.00200	mg/L	0.100		96.4	85-115	1.48	20	
Chromium [He]	0.098	0.00043	0.00100	"	0.100		98.2	85-115	1.69	20	
Lead [He]	0.096	0.00017	0.00100	"	0.100		95.8	85-115	1.94	20	
Nickel [He]	0.096	0.00016	0.0400	"	0.100		96.2	85-115	1.69	20	
Matrix Spike (1I27029-MS1)			**Source: 2109419-02**								
Arsenic [He]	0.105	0.00021	0.00200	mg/L	0.100	0.017	88.1	70-130			
Chromium [He]	0.089	0.00043	0.00100	"	0.100	0.005	84.4	70-130			
Lead [He]	0.095	0.00017	0.00100	"	0.100	ND	94.9	70-130			
Nickel [He]	0.102	0.00016	0.0400	"	0.100	0.020	81.9	70-130			
Matrix Spike (1I27029-MS2)			**Source: 2109440-01**								
Arsenic [He]	0.094	0.00021	0.00200	mg/L	0.100	0.0002	93.9	70-130			
Chromium [He]	0.096	0.00043	0.00100	"	0.100	ND	95.8	70-130			
Lead [He]	0.094	0.00017	0.00100	"	0.100	ND	93.8	70-130			
Nickel [He]	0.091	0.00016	0.0400	"	0.100	0.001	90.1	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27029 - EPA 200.2 DCN 1017 Rev 10											
Matrix Spike Dup (1I27029-MSD1)			**Source: 2109419-02**								
Arsenic [He]	0.106	0.00021	0.00200	mg/L	0.100	0.017	88.3	70-130	0.205	20	
Chromium [He]	0.090	0.00043	0.00100	"	0.100	0.005	85.7	70-130	1.44	20	
Lead [He]	0.094	0.00017	0.00100	"	0.100	ND	93.6	70-130	1.36	20	
Nickel [He]	0.103	0.00016	0.0400	"	0.100	0.020	82.9	70-130	0.979	20	
Matrix Spike Dup (1I27029-MSD2)			**Source: 2109440-01**								
Arsenic [He]	0.093	0.00021	0.00200	mg/L	0.100	0.0002	93.2	70-130	0.798	20	
Chromium [He]	0.094	0.00043	0.00100	"	0.100	ND	93.7	70-130	2.23	20	
Lead [He]	0.092	0.00017	0.00100	"	0.100	ND	91.8	70-130	2.16	20	
Nickel [He]	0.090	0.00016	0.0400	"	0.100	0.001	89.1	70-130	1.06	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27031 - EPA 3510C DCN 4000 Rev 12											
Blank (1I27031-BLK1)											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	ug/L							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							CC-01
Di-n-octyl phthalate	ND	0.29	1.70	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Pentachlorophenol	ND	0.06	1.00	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
Surrogate: 2,4,6-Tribromophenol	*5.09*			"	*10.0*		*50.9*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.22*			"	*5.00*		*64.4*	*21.3-100*			
Surrogate: 2-Fluorophenol	*5.68*			"	*10.0*		*56.8*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.68*			"	*5.00*		*53.6*	*18.4-100*			
Surrogate: Phenol-d5	*5.37*			"	*10.0*		*53.7*	*10-126*			
Surrogate: Terphenyl-dl4	*4.28*			"	*5.00*		*85.6*	*28.8-100*			
LCS (1I27031-BS1)											
Bis(2-ethylhexyl)phthalate	9.49	0.37	1.08	ug/L	10.0		94.9	42.2-107			
Carbazole	6.81	2.62	7.86	"	10.0		68.1	30.1-145			
4-Chloro-3-methylphenol	8.09	0.27	1.65	"	10.0		80.9	43.1-105			
Dibenzofuran	7.82	0.40	1.20	"	10.0		78.2	25-127			
2,4-Dimethylphenol	6.97	0.19	1.05	"	10.0		69.7	31.6-95.8			
2,4-Dinitrophenol	4.67	1.29	4.32	"	10.0		46.7	22.1-108			CC-03
Di-n-octyl phthalate	6.78	0.29	1.70	"	10.0		67.8	42.9-108			
2-Methylphenol	6.88	0.41	1.24	"	10.0		68.8	15.8-123			
3 & 4-Methylphenol	14.6	1.13	3.39	"	20.0		73.0	11.1-130			
Pentachlorophenol	4.63	0.06	1.00	"	10.0		46.3	28.8-111			
2,4,6-Trichlorophenol	8.71	0.44	1.32	"	10.0		87.1	44.4-104			
Surrogate: 2,4,6-Tribromophenol	*8.02*			"	*10.0*		*80.2*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.76*			"	*5.00*		*75.2*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.18*			"	*10.0*		*61.8*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.61*			"	*5.00*		*72.2*	*18.4-100*			
Surrogate: Phenol-d5	*7.03*			"	*10.0*		*70.3*	*10-126*			
Surrogate: Terphenyl-dl4	*4.09*			"	*5.00*		*81.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27031 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1I27031-BSD1)											
Bis(2-ethylhexyl)phthalate	9.99	0.37	1.08	ug/L	10.0		99.9	42.2-107	5.13	82	
Carbazole	7.67	2.62	7.86	"	10.0		76.7	30.1-145	11.9	40	
4-Chloro-3-methylphenol	9.03	0.27	1.65	"	10.0		90.3	43.1-105	11.0	73	
Dibenzofuran	8.06	0.40	1.20	"	10.0		80.6	25-127	3.02	40	
2,4-Dimethylphenol	7.49	0.19	1.05	"	10.0		74.9	31.6-95.8	7.19	58	
2,4-Dinitrophenol	7.12	1.29	4.32	"	10.0		71.2	22.1-108	41.6	132	CC-03
Di-n-octyl phthalate	7.73	0.29	1.70	"	10.0		77.3	42.9-108	13.1	69	
2-Methylphenol	7.32	0.41	1.24	"	10.0		73.2	15.8-123	6.20	40	
3 & 4-Methylphenol	15.6	1.13	3.39	"	20.0		77.8	11.1-130	6.37	40	
Pentachlorophenol	6.17	0.06	1.00	"	10.0		61.7	28.8-111	28.5	86	
2,4,6-Trichlorophenol	8.77	0.44	1.32	"	10.0		87.7	44.4-104	0.687	58	
Surrogate: 2,4,6-Tribromophenol	*9.37*			"	*10.0*		*93.7*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.59*			"	*5.00*		*71.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.05*			"	*10.0*		*60.5*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.88*			"	*5.00*		*77.6*	*18.4-100*			
Surrogate: Phenol-d5	*7.25*			"	*10.0*		*72.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.94*			"	*5.00*		*78.8*	*28.8-100*			
Duplicate (1I27031-DUP1)		**Source: 2109390-01**									
Bis(2-ethylhexyl)phthalate	ND	0.39	1.16	ug/L		ND				45	
Carbazole	ND	2.80	8.41	"		ND				45	
4-Chloro-3-methylphenol	ND	0.29	1.76	"		ND				45	
Dibenzofuran	ND	0.43	1.28	"		ND				45	
2,4-Dimethylphenol	ND	0.20	1.12	"		ND				45	
2,4-Dinitrophenol	ND	1.38	4.62	"		ND				45	CC-01
Di-n-octyl phthalate	ND	0.31	1.82	"		ND				45	
2-Methylphenol	ND	0.44	1.33	"		ND				45	
3 & 4-Methylphenol	ND	1.21	3.63	"		ND				45	
Pentachlorophenol	ND	0.07	1.07	"		ND				45	
2,4,6-Trichlorophenol	ND	0.47	1.41	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*7.07*			"	*10.7*		*66.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.97*			"	*5.35*		*55.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*3.20*			"	*10.7*		*29.9*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.50*			"	*5.35*		*46.8*	*18.4-100*			
Surrogate: Phenol-d5	*2.19*			"	*10.7*		*20.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.53*			"	*5.35*		*66.0*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Blank (1I27038-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							CC-02
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*72.3*			"	*100*		*72.3*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*41.1*			"	*50.0*		*82.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*56.9*			"	*100*		*56.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.9*			"	*50.0*		*59.7*	*10-100*			
Surrogate: Phenol-d5	*59.1*			"	*100*		*59.1*	*10-112*			
Surrogate: Terphenyl-dl4	*51.3*			"	*50.0*		*103*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
LCS (1I27038-BS1)											
Acenaphthene	75.7	1.13	10.0	ug/L	100		75.7	36.1-108			
Acenaphthylene	76.9	1.07	10.0	"	100		76.9	34.6-109			
Anthracene	75.8	0.99	10.0	"	100		75.8	36.4-106			
Benzo (a) anthracene	55.8	0.87	10.0	"	100		55.8	42.9-101			
Benzo (b) fluoranthene	70.5	1.03	10.0	"	100		70.5	43.7-105			
Benzo (k) fluoranthene	64.6	1.01	10.0	"	100		64.6	38.1-112			
Benzo (a) pyrene	76.3	0.98	10.0	"	100		76.3	46.5-104			
Bis(2-ethylhexyl)phthalate	81.0	1.14	10.0	"	100		81.0	25.1-113			
Carbazole	93.3	0.90	10.0	"	100		93.3	5.43-162			
4-Chloro-3-methylphenol	52.7	1.04	10.0	"	100		52.7	39.1-106			
Chrysene	84.3	0.92	10.0	"	100		84.3	43.2-103			
Dibenz (a,h) anthracene	71.0	0.67	10.0	"	100		71.0	31-119			
Dibenzofuran	96.1	1.04	10.0	"	100		96.1	37.6-110			
2,4-Dimethylphenol	45.6	0.84	10.0	"	100		45.6	36-100			
2,4-Dinitrophenol	49.9	3.05	10.0	"	100		49.9	10.5-124			
Di-n-octyl phthalate	102	1.35	10.0	"	100		102	33.6-111			CC-06
Fluoranthene	86.0	0.93	10.0	"	100		86.0	26.4-121			
Fluorene	82.3	1.01	10.0	"	100		82.3	36.9-109			
Indeno (1,2,3-cd) pyrene	67.0	0.89	10.0	"	100		67.0	35.6-116			
2-Methylnaphthalene	60.9	1.12	10.0	"	100		60.9	34.3-102			
2-Methylphenol	68.2	0.88	10.0	"	100		68.2	35-101			
3 & 4-Methylphenol	140	0.87	10.0	"	200		70.1	29.4-107			
Naphthalene	55.8	1.09	10.0	"	100		55.8	36.8-100			
Pentachlorophenol	45.2	2.72	10.0	"	100		45.2	15.1-115			
Phenanthrene	81.1	0.93	10.0	"	100		81.1	36.4-110			
Pyrene	57.5	1.09	10.0	"	100		57.5	23.9-114			
2,4,6-Trichlorophenol	57.6	2.58	10.0	"	100		57.6	36-104			
Surrogate: 2,4,6-Tribromophenol	*62.9*			"	*100*		*62.9*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.2*			"	*50.0*		*70.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*55.3*			"	*100*		*55.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*23.0*			"	*50.0*		*46.1*	*10-100*			
Surrogate: Phenol-d5	*59.4*			"	*100*		*59.4*	*10-112*			
Surrogate: Terphenyl-dl4	*33.9*			"	*50.0*		*67.8*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (1I27038-BSD1)											
Acenaphthene	90.7	1.13	10.0	ug/L	100		90.7	36.1-108	18.0	40	
Acenaphthylene	93.2	1.07	10.0	"	100		93.2	34.6-109	19.2	40	
Anthracene	97.8	0.99	10.0	"	100		97.8	36.4-106	25.3	40	
Benzo (a) anthracene	64.5	0.87	10.0	"	100		64.5	42.9-101	14.6	40	
Benzo (b) fluoranthene	78.0	1.03	10.0	"	100		78.0	43.7-105	10.2	40	
Benzo (k) fluoranthene	74.4	1.01	10.0	"	100		74.4	38.1-112	14.0	40	
Benzo (a) pyrene	89.0	0.98	10.0	"	100		89.0	46.5-104	15.3	40	
Bis(2-ethylhexyl)phthalate	96.2	1.14	10.0	"	100		96.2	25.1-113	17.2	40	
Carbazole	66.5	0.90	10.0	"	100		66.5	5.43-162	33.6	40	
4-Chloro-3-methylphenol	61.0	1.04	10.0	"	100		61.0	39.1-106	14.5	40	
Chrysene	69.0	0.92	10.0	"	100		69.0	43.2-103	20.0	40	
Dibenz (a,h) anthracene	76.4	0.67	10.0	"	100		76.4	31-119	7.27	40	
Dibenzofuran	65.5	1.04	10.0	"	100		65.5	37.6-110	37.9	40	
2,4-Dimethylphenol	57.3	0.84	10.0	"	100		57.3	36-100	22.8	40	
2,4-Dinitrophenol	59.4	3.05	10.0	"	100		59.4	10.5-124	17.4	40	
Di-n-octyl phthalate	105	1.35	10.0	"	100		105	33.6-111	3.40	40	CC-06
Fluoranthene	56.8	0.93	10.0	"	100		56.8	26.4-121	40.9	40	L3
Fluorene	100	1.01	10.0	"	100		100	36.9-109	19.9	40	
Indeno (1,2,3-cd) pyrene	72.2	0.89	10.0	"	100		72.2	35.6-116	7.36	40	
2-Methylnaphthalene	80.1	1.12	10.0	"	100		80.1	34.3-102	27.3	40	
2-Methylphenol	91.2	0.88	10.0	"	100		91.2	35-101	28.8	40	
3 & 4-Methylphenol	186	0.87	10.0	"	200		93.2	29.4-107	28.3	40	
Naphthalene	68.7	1.09	10.0	"	100		68.7	36.8-100	20.7	40	
Pentachlorophenol	54.1	2.72	10.0	"	100		54.1	15.1-115	17.9	40	
Phenanthrene	107	0.93	10.0	"	100		107	36.4-110	27.5	40	
Pyrene	70.5	1.09	10.0	"	100		70.5	23.9-114	20.4	40	
2,4,6-Trichlorophenol	67.3	2.58	10.0	"	100		67.3	36-104	15.6	40	
Surrogate: 2,4,6-Tribromophenol	*75.7*			"	*100*		*75.7*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*41.5*			"	*50.0*		*82.9*	*16.9-105*			
Surrogate: 2-Fluorophenol	*63.3*			"	*100*		*63.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.7*			"	*50.0*		*53.5*	*10-100*			
Surrogate: Phenol-d5	*68.1*			"	*100*		*68.1*	*10-112*			
Surrogate: Terphenyl-dl4	*44.6*			"	*50.0*		*89.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Duplicate (1I27038-DUP1)		**Source: 2109427-03**									
Acenaphthene	353	11.8	104	ug/L		287			20.8	45	
Acenaphthylene	ND	1.11	10.4	"		ND				45	
Anthracene	ND	1.03	10.4	"		ND				45	
Benzo (a) anthracene	ND	0.91	10.4	"		ND				45	
Benzo (b) fluoranthene	ND	1.07	10.4	"		ND				45	
Benzo (k) fluoranthene	ND	1.05	10.4	"		ND				45	
Benzo (a) pyrene	ND	1.02	10.4	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.4	"		ND				45	
Carbazole	266	9.34	104	"		244			8.68	45	
4-Chloro-3-methylphenol	ND	1.08	10.4	"		ND				45	
Chrysene	ND	0.96	10.4	"		ND				45	
Dibenz (a,h) anthracene	ND	0.70	10.4	"		ND				45	
Dibenzofuran	91.2	1.08	10.4	"		108			16.8	45	
2,4-Dimethylphenol	ND	0.88	10.4	"		ND				45	
2,4-Dinitrophenol	ND	3.18	10.4	"		ND				45	
Di-n-octyl phthalate	ND	1.41	10.4	"		ND				45	
Fluoranthene	14.8	0.97	10.4	"		8.47			54.4	45	P3
Fluorene	105	1.05	10.4	"		130			21.2	45	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"		ND				45	
2-Methylnaphthalene	ND	1.17	10.4	"		ND				45	
2-Methylphenol	ND	0.92	10.4	"		ND				45	
3 & 4-Methylphenol	ND	0.91	10.4	"		ND				45	
Naphthalene	380	11.4	104	"		239			45.5	45	P3
Pentachlorophenol	ND	2.83	10.4	"		ND				45	
Phenanthrene	80.7	0.97	10.4	"		54.0			39.5	45	
Pyrene	ND	1.14	10.4	"		ND				45	
2,4,6-Trichlorophenol	ND	2.69	10.4	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*83.3*			"	*104*		*80.0*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*38.2*			"	*52.1*		*73.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*68.6*			"	*104*		*65.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.6*			"	*52.1*		*51.2*	*10-100*			
Surrogate: Phenol-d5	*62.3*			"	*104*		*59.8*	*10-112*			
Surrogate: Terphenyl-dl4	*40.8*			"	*52.1*		*78.3*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (1I27038-MS1)		**Source: 2109427-03**									
Acenaphthene	354	12.0	106	ug/L	106	287	63.0	10-121			
Acenaphthylene	52.0	1.14	10.6	"	106	ND	48.9	19-110			
Anthracene	55.3	1.05	10.6	"	106	ND	52.0	16.1-116			
Benzo (a) anthracene	66.0	0.93	10.6	"	106	ND	62.1	27.7-107			
Benzo (b) fluoranthene	72.9	1.10	10.6	"	106	ND	68.5	23.3-117			
Benzo (k) fluoranthene	75.9	1.07	10.6	"	106	ND	71.4	20.4-113			
Benzo (a) pyrene	85.6	1.04	10.6	"	106	ND	80.5	34.6-101			
Bis(2-ethylhexyl)phthalate	70.9	1.21	10.6	"	106	ND	66.7	10-108			
Carbazole	336	9.54	106	"	106	244	85.8	10-159			
4-Chloro-3-methylphenol	61.3	1.11	10.6	"	106	ND	57.6	19.8-110			
Chrysene	69.1	0.98	10.6	"	106	ND	65.0	25.6-113			
Dibenz (a,h) anthracene	92.6	0.71	10.6	"	106	ND	87.0	15.9-129			
Dibenzofuran	196	11.1	106	"	106	108	82.9	10-115			
2,4-Dimethylphenol	56.4	0.89	10.6	"	106	ND	53.0	17.2-115			
2,4-Dinitrophenol	83.4	3.24	10.6	"	106	ND	78.4	10-129			
Di-n-octyl phthalate	62.1	1.44	10.6	"	106	ND	58.4	21.1-102			
Fluoranthene	55.1	0.99	10.6	"	106	8.47	43.8	15-119			
Fluorene	205	10.7	106	"	106	130	71.2	10-125			
Indeno (1,2,3-cd) pyrene	84.0	0.94	10.6	"	106	ND	79.0	18.2-129			
2-Methylnaphthalene	50.6	1.19	10.6	"	106	ND	47.6	10-117			
2-Methylphenol	66.4	0.94	10.6	"	106	ND	62.4	10-106			
3 & 4-Methylphenol	139	0.93	10.6	"	213	ND	65.4	10-102			
Naphthalene	324	11.6	106	"	106	239	79.8	19.6-98.1			
Pentachlorophenol	123	2.89	10.6	"	106	ND	116	10-125			
Phenanthrene	78.7	0.99	10.6	"	106	54.0	23.2	16.9-120			
Pyrene	51.8	1.16	10.6	"	106	ND	48.6	12.3-105			
2,4,6-Trichlorophenol	68.1	2.74	10.6	"	106	ND	64.0	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*88.8*			"	*106*		*83.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.6*			"	*53.2*		*66.8*	*16.9-105*			
Surrogate: 2-Fluorophenol	*68.3*			"	*106*		*64.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.1*			"	*53.2*		*56.6*	*10-100*			
Surrogate: Phenol-d5	*63.7*			"	*106*		*59.9*	*10-112*			
Surrogate: Terphenyl-dl4	*37.5*			"	*53.2*		*70.4*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J01005 - EPA 5030B											
Blank (1J01005-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*48.6*			"	*50.0*		*97.1*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*53.2*			"	*50.0*		*106*	*87.4-116*			
Surrogate: Toluene-d8	*51.5*			"	*50.0*		*103*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*47.4*			"	*50.0*		*94.8*	*80.4-119*			
LCS (1J01005-BS1)											
Benzene	20.3	0.258	5.00	ug/L	20.0		102	64.2-144			
Ethylbenzene	20.4	0.190	5.00	"	20.0		102	64.9-150			
Surrogate: Dibromofluoromethane	*48.5*			"	*50.0*		*97.1*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*			"	*50.0*		*99.9*	*87.4-116*			
Surrogate: Toluene-d8	*50.3*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*49.3*			"	*50.0*		*98.7*	*80.4-119*			
LCS Dup (1J01005-BSD1)											
Benzene	20.8	0.258	5.00	ug/L	20.0		104	64.2-144	2.19	30	
Ethylbenzene	21.3	0.190	5.00	"	20.0		106	64.9-150	4.42	30	
Surrogate: Dibromofluoromethane	*48.7*			"	*50.0*		*97.4*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*48.7*			"	*50.0*		*97.3*	*87.4-116*			
Surrogate: Toluene-d8	*50.3*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.5*			"	*50.0*		*101*	*80.4-119*			
Matrix Spike (1J01005-MS1)		**Source: 2109427-03**									
Benzene	22.1	0.258	5.00	ug/L	20.0	ND	111	70-149			
Ethylbenzene	26.3	0.190	5.00	"	20.0	5.76	103	70.2-150			
Surrogate: Dibromofluoromethane	*48.4*			"	*50.0*		*96.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.0*			"	*50.0*		*98.0*	*87.4-116*			
Surrogate: Toluene-d8	*49.8*			"	*50.0*		*99.7*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.8*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J01005 - EPA 5030B											
Matrix Spike Dup (1J01005-MSD1)		**Source: 2109427-03**									
Benzene	21.4	0.258	5.00	ug/L	20.0	ND	107	70-149	3.63	35	
Ethylbenzene	25.5	0.190	5.00	"	20.0	5.76	98.5	70.2-150	3.21	35	
Surrogate: Dibromofluoromethane	*47.4*			"	*50.0*		*94.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.2*			"	*50.0*		*98.3*	*87.4-116*			
Surrogate: Toluene-d8	*51.0*			"	*50.0*		*102*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*49.8*			"	*50.0*		*99.6*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:23

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02
Lachat 10-107-06-1-I in Water	
Ammonia as N	C01,C02
SM 2510 B-2011 in Water	
Specific Conductance (EC)	C01,C02
SM 4500-H+B-2011 in Water	
pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS PO Box 15369 Hattiesburg MS, 39404-5369	Project: Mobile Quarterly Wells New Permit Project Number: 3rd Quarter Project Manager: Ethan Allen	**Reported:** 12/22/2021 12:23

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2022
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2022
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2021
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2021
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2022
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2022
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2022
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/09/2022
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2022
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2022
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2022

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:23

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Howard Mitch Spicer	HMS
Kristy L. Pierce	KLP
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Stella S Kleist	SSK
Teresa Meins	TKM
Zain A Kleist	ZAK

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

Print Form

M-M Lab WO # 2109427

Company Name:	CAVENHAM FOREST IND.
Address:	P.O BOX 15369
City:	HATTIESBURG State: MS Zip: 39404
Phone:	601-544-3674
Fax:	601-655-0504
Project Manager:	ETHAN ALLEN
Purchase Order #:	
Email Address :	EALLEN@ENV-MGT.COM
Sampler Name Printed:	JEFF GONSOULIN
Sampler Name Signed:	

Turn Around Time & Reporting

Our normal turn around time is 10 working days

- x Normal
- __Next Day*
- __2nd Day*
- __Other*_____

*All rush order requests must be prior approved.

- __Phone
- __Mail
- __Fax
- __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 3RD QTR

Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
RW-4	9-22-21/15:45	W	9	G	X	X	X	X	X	X	X
RW-5	9-22-21/15:00	W	9	G	X	X	X	X	X	X	X
RC-2A	9-22-21/14:30	W	11	G	X	X	X	X	X	X	X
RC-3A	9-22-21/14:00	W	7	G	X	X	X	X	X	X	X
RW-3A	9-22-21/10:45	W	9	G	X	X	X	X	X	X	X
RC-2	9-22-21/10:10	W	7	G	X	X	X	X	X	X	X
RC-3	9-22-21/9:55	W	7	G	X	X	X	X	X	X	X
TBV # 6776	9-22-21/9:55	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? Y N Thermometer# 5 Cooler.#_____ **Receipt Temp Corrected(°C)**

Date & Time _____ By: _____ Sample_____ Blank X Cooler_____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	9-23-21	8:35
Received by	Sarah Fornea	Sarah Fornea	MM	9/23/21	0835
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:
client cooler #1 0.0°C
cooler #1102 1.1°C
client cooler #2 -0.1°C

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

MICRO-METHODS
LABORATORY, INC.

Mailing Address:
PO Box 1410
Ocean Springs, MS
39566-1410

6500 Sunplex Drive
Ocean Springs, MS 39564
228.875.6420 Phone
228.875.6423 Fax

DOCUMENT CHANGE NOTICE

Revised Report

December 22, 2021

Ethan Allen

Work Order # : 2109469

Purchase Order #: MO Qrtly Wells

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg, MS 39404-5369

RE: Mobile Quarterly Wells New Permit

Enclosed is the revised report for samples received by the laboratory on 09/24/2021 08:20. This report supercedes any previous version of the above noted work order. If you have any questions concerning this report, please feel free to contact the office.

Sincerely,

Mitch Spicer

Lab Director
Micro-Methods Laboratory, Inc.

DISCLAIMER

The results only relate to the items or the sample and/or samples received by the laboratory. This report shall not be reproduced except in full, without the approval of the laboratory. All NELAP certified test methods performed meet the requirements of NELAC 2009 Standards. Any variances and/or deviations specific to this analytical report are referenced in the lab report using qualifiers and detailed explanations found in the case narrative.

MICRO-METHODS
LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date/Time Sampled	Sampled by	Date/Time Received
Mobile/E-1	2109469-01	Water	09/23/2021 13:00	*Jeff Gonsoulin*	09/24/2021 08:20
Mobile/UG-2	2109469-02	Water	09/23/2021 11:15	*Jeff Gonsoulin*	09/24/2021 08:20
Mobile/T-1	2109469-03	Water	09/23/2021 10:45	*Jeff Gonsoulin*	09/24/2021 08:20
Mobile/T-2	2109469-04	Water	09/23/2021 10:15	*Jeff Gonsoulin*	09/24/2021 08:20
Trip Blank TBV#6775	2109469-05	Water	09/23/2021 10:15	*Micro Methods*	09/24/2021 08:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Sample Receipt Conditions

Date/Time Received: 9/24/2021 8:20:00AM
Received by: Stella S Kleist
Date/Time Logged: 9/24/2021 9:13:00AM
Cooler ID: client cooler #1

Shipped by: Client Delivery
Submitted by: Jeff Gonsoulin
Logged by: Sarah E. Tomek
Receipt Temperature: 0.4 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Cooler ID: client cooler #2 **Receipt Temperature:** -0.1 °C

Cooler Custody Seals Present	No	*Received on Ice but Not Frozen*	Yes
Containers Intact	Yes	*No Ice, Short Trip*	No
COC/Labels Agree	Yes	*Obvious Contamination*	No
Labels Complete	Yes	*Rush to meet HT*	No
COC Complete	Yes	*Received within HT*	Yes
Volatile Vial Headspace >6mm	No	*Proper Containers for Analysis*	Yes
Field Sheet/Instructions Included	No	*Correct Preservation*	Yes
Samples Rejected/Documented in Log	No	*Adequate Sample for Analysis*	Yes
Temp Taken From Temp Blank	Yes	*Sample Custody Seals Present*	No
Temp Taken From Sample Container	No	*Samples Missing from COC/Cooler*	No
Temp Taken From Cooler	No		
COC meets acceptance criteria	Yes		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

CASE NARRATIVE SUMMARY

All reported results are within Micro-Methods Laboratory, Inc.defined laboratory quality control objectives unless detailed in narrative summary or identified as qualifications. NOTE: All results listed on this report are calculated on a wet weight basis (as received by the laboratory) unless otherwise noted in the analysis qualification sections.

Summary Comments:

Volatile Technician Comments - BSF:
Sample(s) analyzed with zero headspace. 8260D-5030B
pH of sample(s) is less than two in preserved vials. 8260D-5030B

Report resubmitted with revised format at client's request - HMS 12/22/2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

B-06 Possible laboratory contamination.

Naphthalene
1I28028-BLK1

CC-01 CCV exceeds acceptance limits. Sample results reported from this calibration were below the reporting limits.

2,4-Dinitrophenol
1I27031-BLK1, 1I27031-DUP1

CC-02 ICV exceeds the acceptance limit. Sample results reported from calibration were below the reporting limits.

Di-n-octyl phthalate
1I27038-BLK1

CC-03 CCV exceeds acceptance limits. QC Results reported from this calibration within acceptance limits.

2,4-Dinitrophenol
1I27031-BS1, 1I27031-BSD1

CC-06 ICV exceeds the acceptance limit. QC results reported from calibration were within acceptance limits.

Di-n-octyl phthalate
1I27038-BS1, 1I27038-BSD1

J Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

2,4-Dimethylphenol, 4-Chloro-3-methylphenol, Acenaphthylene, Benzo (a) anthracene, Benzo (a) pyrene, Benzo (b) fluoranthene, Benzo (k) fluoranthene, Bis(2-ethylhexyl)phthalate, Carbazole, Chrysene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-cd) pyrene, Pyrene
2109469-04[Mobile/T-2], 2109469-03[Mobile/T-1], 2109469-01[Mobile/E-1], 2109469-02[Mobile/UG-2]

L3 LCS/LCSD Precision Limit exceeded.

Fluoranthene
1I27038-BSD1

P3 Sample/Sample Duplicate RPD exceeded acceptance criteria.

Anthracene, Benzo (a) pyrene, Benzo (k) fluoranthene, Fluoranthene, Indeno (1,2,3-cd) pyrene, Naphthalene
1I28028-DUP1, 1I27038-DUP1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

SIM PAH Analysis by GC/MS-EPA 8270D

Qualifiers:

SR01 The surrogate recovery for this sample is not available either due to matrix interference or due to sample dilution required for high analyte concentration/matrix interferences.

2-Fluorobiphenyl, Nitrobenzene-d5

1I28028-DUP1, 2109469-01[Mobile/E-1]

pH-SM 4500-H+B-2011

Qualifiers:

HT-02 At the time of receipt, this sample had already exceeded the recommended holding time.

pH

2109469-01[Mobile/E-1], 2109469-02[Mobile/UG-2], 2109469-03[Mobile/T-1], 2109469-04[Mobile/T-2]

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Mobile/E-1

2109469-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**25.8**	11.2	25.8	ug/L	500.0	1I28028	CRLV	09/28/2021 08:26	10/07/2021 01:06	EPA 8270D	
2-Methylnaphthalene	**155**	25.8	25.8	"	"	"	CRLV	"	"	"	
Acenaphthylene	**3.40**	0.12	0.62	"	10.0	"	CRLV	"	09/30/2021 22:45	"	
Acenaphthene	**191**	11.2	25.8	"	500.0	"	CRLV	"	10/07/2021 01:06	"	
Fluorene	**1.13**	0.17	1.03	"	10.0	"	CRLV	"	10/06/2021 01:46	"	
Phenanthrene	**155**	7.89	30.9	"	500.0	"	CRLV	"	10/07/2021 01:06	"	
Anthracene	**14.4**	1.58	6.19	"	100.0	"	CRLV	"	10/05/2021 23:02	"	
Fluoranthene	**81.4**	2.65	6.19	"	"	"	CRLV	"	"	"	
Pyrene	**64.9**	1.73	5.15	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**12.4**	2.55	6.19	"	"	"	CRLV	"	"	"	
Chrysene	**15.5**	3.08	5.15	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**20.6**	13.2	10.3	"	500.0	"	CRLV	"	10/07/2021 01:06	"	
Benzo (k) fluoranthene	ND	12.7	25.8	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**10.2**	0.22	0.62	"	10.0	"	CRLV	"	10/06/2021 01:46	"	
Indeno (1,2,3-cd) pyrene	**2.37**	0.25	1.75	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**0.52**	0.36	0.52	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0103	*5.00 %*	*11.7-131*	"	CRLV	"	*10/01/2021 02:10*	"	*SR01*
Nitrobenzene-d5	0.0412	*20.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.309	*150 %*	*11.3-166*	"	CRLV	"	*09/30/2021 22:45*	"	

Classical Chemistry Parameters											
Chloride	**682**	4.73	25.0	mg/L	50.0	1I24033	DLW	09/24/2021 15:43	09/25/2021 06:36	SM 4110B 2011	
Nitrate as N	**12.8**	0.197	5.00	"	10.0	"	DLW	"	09/24/2021 15:43	"	
Ammonia as N	**17.4**	0.04	0.21	"	1.0	1I28055	CRG	09/28/2021 12:04	09/28/2021 15:01	Lachat 10-107-06-1-I	
pH	**6.86**			pH Units	"	1I27043	CRG	09/27/2021 18:01	09/27/2021 18:01	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**2360**			umhos/cm @25.0 C	"	1I28053	SSK	09/28/2021 13:45	09/28/2021 14:04	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I29025	SCH	09/29/2021 08:50	10/08/2021 15:56	EPA 200.8 Rev 5.4	
Chromium [He]	**0.00382**	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Mobile/E-1

2109469-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	**5.21**	0.38	1.13	ug/L	1.0	1I27031	CRLV	09/27/2021 09:52	09/27/2021 22:34	EPA 8270D	
Carbazole	**7.49**	2.73	8.19	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	0.29	1.72	"	"	"	CRLV	"	"	"	
Dibenzofuran	**102**	4.16	12.5	"	10.0	"	CRLV	"	09/29/2021 11:04	"	
2,4-Dimethylphenol	ND	0.20	1.09	"	1.0	"	CRLV	"	09/27/2021 22:34	"	
2,4-Dinitrophenol	ND	1.34	4.50	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.77	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.29	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.18	3.53	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.04	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.38	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.21	*69.2 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.04	*39.2 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.00	*19.2 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	1.77	*34.0 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.46	*14.0 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.00	*38.4 %*	*28.8-100*	"	CRLV	"	"	"	

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	**18.9**	0.258	5.00	ug/L	1.0	1J07034	BSF	10/05/2021 08:00	10/05/2021 15:09	EPA 8260D	
Ethylbenzene	**9.74**	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	45.0	*90.0 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.3	*98.6 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.3	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	50.2	*100 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Mobile/UG-2

2109469-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Parent and Substituted PAH by SIM/GCMS											
Naphthalene	**0.20**	0.02	0.05	ug/L	1.0	1I28028	CRLV	09/28/2021 08:26	09/30/2021 18:40	EPA 8270D	
2-Methylnaphthalene	**0.10**	0.05	0.05	"	"	"	CRLV	"	"	"	
Acenaphthylene	ND	0.01	0.06	"	"	"	CRLV	"	"	"	
Acenaphthene	**0.08**	0.02	0.05	"	"	"	CRLV	"	"	"	
Fluorene	**0.04**	0.02	0.12	"	"	"	CRLV	"	"	"	J
Phenanthrene	**0.07**	0.02	0.06	"	"	"	CRLV	"	"	"	
Anthracene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Fluoranthene	**0.04**	0.03	0.06	"	"	"	CRLV	"	"	"	J
Pyrene	**0.03**	0.02	0.05	"	"	"	CRLV	"	"	"	J
Benzo (a) anthracene	ND	0.03	0.06	"	"	"	CRLV	"	"	"	
Chrysene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	ND	0.03	0.05	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	ND	0.02	0.06	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.03	0.18	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	ND	0.04	0.17	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2-Fluorobiphenyl	0.0311	*15.0 %*	*11.7-131*	"	CRLV	"	"	"	
Nitrobenzene-d5	0.135	*65.0 %*	*19.6-113*	"	CRLV	"	"	"	
Terphenyl-dl4	0.124	*60.0 %*	*11.3-166*	"	CRLV	"	"	"	

Classical Chemistry Parameters											
Chloride	**9.05**	0.189	1.00	mg/L	2.0	1I24033	DLW	09/24/2021 16:15	09/24/2021 16:15	SM 4110B 2011	
Nitrate as N	**1.79**	0.039	1.00	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.04	0.21	"	1.0	1I28055	CRG	09/28/2021 12:04	09/28/2021 15:02	Lachat 10-107-06-1-I	
pH	**4.46**			pH Units	"	1I27043	CRG	09/27/2021 18:03	09/27/2021 18:03	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**220**			umho s/cm @25.0 C	"	1I28053	SSK	09/28/2021 13:45	09/28/2021 14:04	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I29025	SCH	09/29/2021 08:50	10/08/2021 16:01	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Mobile/UG-2

2109469-02 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Bis(2-ethylhexyl)phthalate	ND	0.38	1.12	ug/L	1.0	1I27031	CRLV	09/27/2021 09:52	09/27/2021 23:10	EPA 8270D	
Carbazole	ND	2.72	8.15	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	ND	0.28	1.71	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	0.41	1.24	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.20	1.09	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	1.34	4.48	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	0.30	1.76	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.43	1.28	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	1.17	3.51	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	0.07	1.04	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	0.46	1.37	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	7.31	*70.5 %*	*0-200*	"	CRLV	"	"	"	
2-Fluorobiphenyl	2.59	*50.0 %*	*21.3-100*	"	CRLV	"	"	"	
2-Fluorophenol	2.59	*25.0 %*	*0-200*	"	CRLV	"	"	"	
Nitrobenzene-d5	2.18	*42.0 %*	*18.4-100*	"	CRLV	"	"	"	
Phenol-d5	1.64	*15.8 %*	*10-126*	"	CRLV	"	"	"	
Terphenyl-dl4	2.62	*50.6 %*	*28.8-100*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J07034	BSF	10/05/2021 08:00	10/05/2021 15:33	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.3	*88.5 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.0	*98.0 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.5	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.7	*97.4 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Mobile/T-1

2109469-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**1.13**	0.095	0.500	mg/L	1.0	1I24033	DLW	09/24/2021 16:23	09/25/2021 07:40	SM 4110B 2011	
Nitrate as N	**0.637**	0.020	0.500	"	"	"	DLW	"	"	"	
Ammonia as N	ND	0.04	0.21	"	"	1I28055	CRG	09/28/2021 12:04	09/28/2021 15:05	Lachat 10-107-06-1-I	
pH	**6.98**			pH Units	"	1I27043	CRG	09/27/2021 18:09	09/27/2021 18:09	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**66**			umhos/cm @25.0 C	"	1I28053	SSK	09/28/2021 13:45	09/28/2021 14:04	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I29025	SCH	09/29/2021 08:50	10/08/2021 16:05	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Mobile/T-1

2109469-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	ND	1.16	10.3	ug/L	1.0	1I27038	CRLV	09/28/2021 12:00	10/05/2021 06:04	EPA 8270D	
Acenaphthylene	ND	1.10	10.3	"	"	"	CRLV	"	"	"	
Anthracene	ND	1.02	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**1.92**	0.90	10.3	"	"	"	CRLV	"	"	"	J
Benzo (b) fluoranthene	**1.96**	1.06	10.3	"	"	"	CRLV	"	"	"	J
Benzo (k) fluoranthene	ND	1.04	10.3	"	"	"	CRLV	"	"	"	
Benzo (a) pyrene	**1.20**	1.01	10.3	"	"	"	CRLV	"	"	"	J
Bis(2-ethylhexyl)phthalate	**1.67**	1.18	10.3	"	"	"	CRLV	"	"	"	J
Carbazole	**1.48**	0.92	10.3	"	"	"	CRLV	"	"	"	J
4-Chloro-3-methylphenol	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
Chrysene	**1.68**	0.95	10.3	"	"	"	CRLV	"	"	"	J
Dibenz (a,h) anthracene	ND	0.69	10.3	"	"	"	CRLV	"	"	"	
Dibenzofuran	ND	1.07	10.3	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	ND	0.87	10.3	"	"	"	CRLV	"	"	"	
2,4-Dinitrophenol	ND	3.14	10.3	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.39	10.3	"	"	"	CRLV	"	"	"	
Fluoranthene	**2.15**	0.96	10.3	"	"	"	CRLV	"	"	"	J
Fluorene	ND	1.04	10.3	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.91	10.3	"	"	"	CRLV	"	"	"	
2-Methylnaphthalene	ND	1.15	10.3	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.91	10.3	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.90	10.3	"	"	"	CRLV	"	"	"	
Naphthalene	ND	1.12	10.3	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.80	10.3	"	"	"	CRLV	"	"	"	
Phenanthrene	ND	0.96	10.3	"	"	"	CRLV	"	"	"	
Pyrene	**2.19**	1.12	10.3	"	"	"	CRLV	"	"	"	J
2,4,6-Trichlorophenol	ND	2.66	10.3	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	98.3	*95.3 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	36.8	*71.5 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	70.0	*67.9 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	33.6	*65.3 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	69.6	*67.5 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	41.7	*80.9 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J07034	BSF	10/05/2021 08:00	10/05/2021 15:56	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Mobile/T-1

2109469-03 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.8	*89.5 %*	*83.9-122*	*1J07034*	BSF	*10/05/2021 08:00*	"	"	
1,2-Dichloroethane-d4	50.3	*101 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.1	*104 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.1	*98.1 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Mobile/T-2

2109469-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Classical Chemistry Parameters											
Chloride	**63.8**	0.946	5.00	mg/L	10.0	1I24033	DLW	09/24/2021 16:23	09/25/2021 08:12	SM 4110B 2011	
Nitrate as N	**16.0**	0.197	5.00	"	"	"	DLW	"	"	"	
Ammonia as N	**4.00**	0.04	0.21	"	1.0	1I28055	CRG	09/28/2021 12:04	09/28/2021 15:06	Lachat 10-107-06-1-I	
pH	**6.81**			pH Units	"	1I27043	CRG	09/27/2021 18:12	09/27/2021 18:12	SM 4500-H+B-2011	HT-02
Specific Conductance (EC)	**871**			umhos/cm @25.0 C	"	1I28053	SSK	09/28/2021 13:45	09/28/2021 14:04	SM 2510 B-2011	
Metals by EPA 200 Series Methods ICP-MS [Analysis Mode]											
Arsenic [He]	ND	0.00021	0.00200	mg/L	1.0	1I29025	SCH	09/29/2021 08:50	10/08/2021 16:09	EPA 200.8 Rev 5.4	
Chromium [He]	ND	0.00043	0.00100	"	"	"	SCH	"	"	"	
Lead [He]	ND	0.00017	0.00100	"	"	"	SCH	"	"	"	
Nickel [He]	ND	0.00016	0.0400	"	"	"	SCH	"	"	"	
Semivolatile Organic Compounds by SW-846 Method 8270D											

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Mobile/T-2

2109469-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Semivolatile Organic Compounds by SW-846 Method 8270D											
Acenaphthene	**574**	11.7	104	ug/L	10.0	1I27038	CRLV	09/28/2021 12:00	10/05/2021 18:33	EPA 8270D	
Acenaphthylene	**5.13**	1.11	10.4	"	1.0	"	CRLV	"	10/05/2021 06:37	"	J
Anthracene	**24.6**	1.02	10.4	"	"	"	CRLV	"	"	"	
Benzo (a) anthracene	**14.1**	0.90	10.4	"	"	"	CRLV	"	"	"	
Benzo (b) fluoranthene	**10.7**	1.07	10.4	"	"	"	CRLV	"	"	"	
Benzo (k) fluoranthene	**4.15**	1.05	10.4	"	"	"	CRLV	"	"	"	J
Benzo (a) pyrene	**5.69**	1.01	10.4	"	"	"	CRLV	"	"	"	J
Bis(2-ethylhexyl)phthalate	**1.77**	1.18	10.4	"	"	"	CRLV	"	"	"	J
Carbazole	**62.9**	0.93	10.4	"	"	"	CRLV	"	"	"	
4-Chloro-3-methylphenol	**1.70**	1.08	10.4	"	"	"	CRLV	"	"	"	J
Chrysene	**13.2**	0.96	10.4	"	"	"	CRLV	"	"	"	
Dibenz (a,h) anthracene	**0.91**	0.69	10.4	"	"	"	CRLV	"	"	"	J
Dibenzofuran	**87.1**	1.08	10.4	"	"	"	CRLV	"	"	"	
2,4-Dimethylphenol	**8.99**	0.87	10.4	"	"	"	CRLV	"	"	"	J
2,4-Dinitrophenol	ND	3.16	10.4	"	"	"	CRLV	"	"	"	
Di-n-octyl phthalate	ND	1.40	10.4	"	"	"	CRLV	"	"	"	
Fluoranthene	**52.7**	0.97	10.4	"	"	"	CRLV	"	"	"	
Fluorene	**109**	1.05	10.4	"	"	"	CRLV	"	"	"	
Indeno (1,2,3-cd) pyrene	**2.00**	0.92	10.4	"	"	"	CRLV	"	"	"	J
2-Methylnaphthalene	**101**	1.16	10.4	"	"	"	CRLV	"	"	"	
2-Methylphenol	ND	0.91	10.4	"	"	"	CRLV	"	"	"	
3 & 4-Methylphenol	ND	0.90	10.4	"	"	"	CRLV	"	"	"	
Naphthalene	**71.0**	1.13	10.4	"	"	"	CRLV	"	"	"	
Pentachlorophenol	ND	2.82	10.4	"	"	"	CRLV	"	"	"	
Phenanthrene	**93.8**	0.96	10.4	"	"	"	CRLV	"	"	"	
Pyrene	**46.1**	1.13	10.4	"	"	"	CRLV	"	"	"	
2,4,6-Trichlorophenol	ND	2.67	10.4	"	"	"	CRLV	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
2,4,6-Tribromophenol	105	*102 %*	*16.7-116*	"	CRLV	"	"	"	
2-Fluorobiphenyl	35.0	*67.5 %*	*16.9-105*	"	CRLV	"	"	"	
2-Fluorophenol	67.9	*65.5 %*	*10-100*	"	CRLV	"	"	"	
Nitrobenzene-d5	30.6	*59.1 %*	*10-100*	"	CRLV	"	"	"	
Phenol-d5	66.4	*64.1 %*	*10-112*	"	CRLV	"	"	"	
Terphenyl-dl4	43.9	*84.6 %*	*10-105*	"	CRLV	"	"	"	

Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J07034	BSF	10/05/2021 08:00	10/05/2021 16:20	EPA 8260D	
Ethylbenzene	**11.1**	0.190	5.00	"	"	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Mobile/T-2

2109469-04 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers

Volatile Organic Compounds by EPA Method 8260D

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.5	*89.0 %*	*83.9-122*	*1J07034*	BSF	*10/05/2021 08:00*	"	"	
1,2-Dichloroethane-d4	49.8	*99.6 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	51.1	*102 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	48.9	*97.8 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Trip Blank TBV#6775

2109469-05 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Batch	Analyst	Date Time Prepared	Date Time Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260D											
Benzene	ND	0.258	5.00	ug/L	1.0	1J07034	BSF	10/05/2021 08:00	10/05/2021 17:07	EPA 8260D	
Ethylbenzene	ND	0.190	5.00	"	"	"	BSF	"	"	"	

Surrogate	*Result*	*% Rec*	*Rec Limits*	*Batch*	*Analyst*	*Date Time Prepared*	*Date Time Analyzed*	*Method*	*Qualifiers*
Dibromofluoromethane	44.6	*89.1 %*	*83.9-122*	"	BSF	"	"	"	
1,2-Dichloroethane-d4	49.1	*98.3 %*	*87.4-116*	"	BSF	"	"	"	
Toluene-d8	52.4	*105 %*	*81.4-118*	"	BSF	"	"	"	
4-Bromofluorobenzene	49.5	*98.9 %*	*80.4-119*	"	BSF	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
Blank (1I28028-BLK1)											
Naphthalene	0.07	0.02	0.05	ug/L							B-06
2-Methylnaphthalene	ND	0.05	0.05	"							
Acenaphthylene	ND	0.01	0.06	"							
Acenaphthene	0.02	0.02	0.05	"							
Fluorene	ND	0.02	0.12	"							
Phenanthrene	ND	0.02	0.06	"							
Anthracene	ND	0.02	0.06	"							
Fluoranthene	ND	0.03	0.06	"							
Pyrene	ND	0.02	0.05	"							
Benzo (a) anthracene	ND	0.02	0.06	"							
Chrysene	ND	0.03	0.05	"							
Benzo (b) fluoranthene	ND	0.03	0.05	"							
Benzo (k) fluoranthene	ND	0.02	0.05	"							
Benzo (a) pyrene	ND	0.02	0.06	"							
Indeno (1,2,3-cd) pyrene	ND	0.02	0.17	"							
Dibenz (a,h) anthracene	ND	0.04	0.16	"							
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.180*			"	*0.200*		*90.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.160*			"	*0.200*		*80.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
LCS (1I28028-BS1)											
Naphthalene	0.21	0.02	0.05	ug/L	0.200		105	10-145			
2-Methylnaphthalene	0.17	0.05	0.05	"	0.200		85.0	50-150			
Acenaphthylene	0.14	0.01	0.06	"	0.200		70.0	10-147			
Acenaphthene	0.17	0.02	0.05	"	0.200		85.0	10-143			
Fluorene	0.17	0.02	0.12	"	0.200		85.0	10-150			
Phenanthrene	0.17	0.02	0.06	"	0.200		85.0	10-151			
Anthracene	0.14	0.02	0.06	"	0.200		70.0	10-130			
Fluoranthene	0.15	0.03	0.06	"	0.200		75.0	10-155			
Pyrene	0.21	0.02	0.05	"	0.200		105	10-148			
Benzo (a) anthracene	0.15	0.02	0.06	"	0.200		75.0	38.5-141			
Chrysene	0.21	0.03	0.05	"	0.200		105	45.4-150			
Benzo (b) fluoranthene	0.19	0.03	0.05	"	0.200		95.0	33.6-160			
Benzo (k) fluoranthene	0.23	0.02	0.05	"	0.200		115	33-159			
Benzo (a) pyrene	0.18	0.02	0.06	"	0.200		90.0	10-177			
Indeno (1,2,3-cd) pyrene	0.21	0.02	0.17	"	0.200		105	10.7-171			
Dibenz (a,h) anthracene	0.21	0.04	0.16	"	0.200		105	16-164			
Surrogate: 2-Fluorobiphenyl	*0.130*			"	*0.200*		*65.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.190*			"	*0.200*		*95.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.190*			"	*0.200*		*95.0*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1I28028-BSD1)											
Naphthalene	0.19	0.02	0.05	ug/L	0.200		95.0	10-145	10.0	40	
2-Methylnaphthalene	0.17	0.05	0.05	"	0.200		85.0	50-150	0.00	40	
Acenaphthylene	0.12	0.01	0.06	"	0.200		60.0	10-147	15.4	40	
Acenaphthene	0.16	0.02	0.05	"	0.200		80.0	10-143	6.06	40	
Fluorene	0.16	0.02	0.12	"	0.200		80.0	10-150	6.06	40	
Phenanthrene	0.16	0.02	0.06	"	0.200		80.0	10-151	6.06	40	
Anthracene	0.14	0.02	0.06	"	0.200		70.0	10-130	0.00	40	
Fluoranthene	0.16	0.03	0.06	"	0.200		80.0	10-155	6.45	40	
Pyrene	0.19	0.02	0.05	"	0.200		95.0	10-148	10.0	40	
Benzo (a) anthracene	0.19	0.02	0.06	"	0.200		95.0	38.5-141	23.5	40	
Chrysene	0.24	0.03	0.05	"	0.200		120	45.4-150	13.3	40	
Benzo (b) fluoranthene	0.24	0.03	0.05	"	0.200		120	33.6-160	23.3	40	
Benzo (k) fluoranthene	0.26	0.02	0.05	"	0.200		130	33-159	12.2	40	
Benzo (a) pyrene	0.20	0.02	0.06	"	0.200		100	10-177	10.5	40	
Indeno (1,2,3-cd) pyrene	0.22	0.02	0.17	"	0.200		110	10.7-171	4.65	40	
Dibenz (a,h) anthracene	0.22	0.04	0.16	"	0.200		110	16-164	4.65	40	
Surrogate: 2-Fluorobiphenyl	*0.100*			"	*0.200*		*50.0*	*11.7-100*			
Surrogate: Nitrobenzene-d5	*0.190*			"	*0.200*		*95.0*	*19.6-113*			
Surrogate: Terphenyl-dl4	*0.200*			"	*0.200*		*100*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28028 - EPA 3510C DCN 4000 Rev 12											
Duplicate (1I28028-DUP1)			**Source: 2109390-02**								
Naphthalene	653	22.1	51.0	ug/L		643			1.57	45	
2-Methylnaphthalene	91.2	0.51	0.51	"		153			50.6	45	
Acenaphthylene	3.16	0.12	0.61	"		2.86			10.2	45	
Acenaphthene	235	22.1	51.0	"		204			14.0	45	
Fluorene	112	17.1	122	"		91.8			20.0	45	
Phenanthrene	321	7.81	30.6	"		214			40.0	45	
Anthracene	56.1	7.81	30.6	"		28.6			65.1	45	P3
Fluoranthene	107	13.1	30.6	"		61.2			54.5	45	P3
Pyrene	71.4	17.1	51.0	"		61.2			15.4	45	
Benzo (a) anthracene	9.18	2.52	6.12	"		8.88			3.39	45	
Chrysene	11.2	3.05	5.10	"		7.55			39.1	45	
Benzo (b) fluoranthene	7.45	0.26	0.51	"		6.12			19.5	45	
Benzo (k) fluoranthene	2.24	0.25	0.51	"		4.08			58.1	45	P3
Benzo (a) pyrene	3.37	0.22	0.61	"		1.84			58.8	45	P3
Indeno (1,2,3-cd) pyrene	0.71	0.25	1.73	"		0.41			54.5	45	P3
Dibenz (a,h) anthracene	ND	0.36	1.63	"		ND				45	
Surrogate: 2-Fluorobiphenyl	*0.00*			"	*0.204*			*11.7-100*			*SR01*
Surrogate: Nitrobenzene-d5	*0.0306*			"	*0.204*		*15.0*	*19.6-113*			*SR01*
Surrogate: Terphenyl-dl4	*0.235*			"	*0.204*		*115*	*11.3-148*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Parent and Substituted PAH by SIM/GCMS - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I24033 - Default Prep GenChem											
Blank (1I24033-BLK1)											
Chloride	ND	0.095	0.500	mg/L							
Nitrate as N	ND	0.020	0.500	"							
Blank (1I24033-BLK2)											
Nitrate as N	ND	0.020	0.500	mg/L							
LCS (1I24033-BS1)											
Chloride	10.1	0.095	0.500	mg/L	10.0		101	86.3-109			
Nitrate as N	2.16	0.020	0.500	"	2.26		95.5	81.7-111			
LCS (1I24033-BS2)											
Nitrate as N	2.06	0.020	0.500	mg/L	2.26		91.0	81.7-111			
LCS Dup (1I24033-BSD1)											
Chloride	10.9	0.095	0.500	mg/L	10.0		109	86.3-109	7.52	20	
Nitrate as N	2.43	0.020	0.500	"	2.26		107	81.7-111	11.7	20	
LCS Dup (1I24033-BSD2)											
Nitrate as N	2.07	0.020	0.500	mg/L	2.26		91.5	81.7-111	0.534	20	
Duplicate (1I24033-DUP1)			**Source: 2109469-04**								
Chloride	64.2	0.946	5.00	mg/L		63.8			0.750	20	
Nitrate as N	15.8	0.197	5.00	"		16.0			1.38	20	
Duplicate (1I24033-DUP2)			**Source: 2109470-08**								
Nitrate as N	13.3	0.079	2.00	mg/L		13.0			2.31	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27043 - Default Prep GenChem											
Duplicate (1I27043-DUP1)			**Source: 2109390-01**								
pH	6.23			pH Units		6.14			1.46	5	
Duplicate (1I27043-DUP2)			**Source: 2109469-04**								
pH	6.78			pH Units		6.81			0.441	5	
Batch 1I28053 - Default Prep GenChem											
LCS (1I28053-BS1)											
Specific Conductance (EC)	1420			uS/cm	1410		101	90-110			
Duplicate (1I28053-DUP1)			**Source: 2109469-04**								
Specific Conductance (EC)	869			umhos/cm @25.0 C		871			0.230	10	
Batch 1I28055 - Default Prep GenChem											
Blank (1I28055-BLK1)											
Ammonia as N	ND	0.04	0.21	mg/L							
LCS (1I28055-BS1)											
Ammonia as N	5.31	0.04	0.21	mg/L	5.00		106	90-110			
LCS Dup (1I28055-BSD1)											
Ammonia as N	5.29	0.04	0.21	mg/L	5.00		106	90-110	0.377	10	
Duplicate (1I28055-DUP1)			**Source: 2109455-01**								
Ammonia as N	693	4.00	21.0	mg/L		706			1.86	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Classical Chemistry Parameters - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I28055 - Default Prep GenChem											
Matrix Spike (1I28055-MS1)			**Source: 2109461-01**								
Ammonia as N	5.63	0.04	0.21	mg/L	5.00	0.16	109	90-110			
Matrix Spike Dup (1I28055-MSD1)			**Source: 2109461-01**								
Ammonia as N	5.46	0.04	0.21	mg/L	5.00	0.16	106	90-110	3.07	10	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Metals by EPA 200 Series Methods ICP-MS [Analysis Mode] - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I29025 - EPA 200.2 DCN 1017 Rev 10											
Blank (1I29025-BLK1)											
Arsenic [He]	ND	0.00021	0.00200	mg/L							
Chromium [He]	ND	0.00043	0.00100	"							
Lead [He]	ND	0.00017	0.00100	"							
Nickel [He]	ND	0.00016	0.0400	"							
LCS (1I29025-BS1)											
Arsenic [He]	0.095	0.00021	0.00200	mg/L	0.100		95.3	85-115			
Chromium [He]	0.098	0.00043	0.00100	"	0.100		97.8	85-115			
Lead [He]	0.094	0.00017	0.00100	"	0.100		93.6	85-115			
Nickel [He]	0.095	0.00016	0.0400	"	0.100		95.1	85-115			
LCS Dup (1I29025-BSD1)											
Arsenic [He]	0.096	0.00021	0.00200	mg/L	0.100		95.9	85-115	0.636	20	
Chromium [He]	0.097	0.00043	0.00100	"	0.100		97.0	85-115	0.853	20	
Lead [He]	0.094	0.00017	0.00100	"	0.100		94.3	85-115	0.727	20	
Nickel [He]	0.096	0.00016	0.0400	"	0.100		96.0	85-115	0.933	20	
Matrix Spike (1I29025-MS1)			**Source: 2109500-01**								
Arsenic [He]	0.094	0.00021	0.00200	mg/L	0.100	0.001	92.3	70-130			
Chromium [He]	0.083	0.00043	0.00100	"	0.100	0.0005	82.6	70-130			
Lead [He]	0.095	0.00017	0.00100	"	0.100	ND	95.0	70-130			
Nickel [He]	0.092	0.00016	0.0400	"	0.100	0.015	77.7	70-130			
Matrix Spike Dup (1I29025-MSD1)			**Source: 2109500-01**								
Arsenic [He]	0.095	0.00021	0.00200	mg/L	0.100	0.001	93.3	70-130	1.04	20	
Chromium [He]	0.084	0.00043	0.00100	"	0.100	0.0005	83.5	70-130	1.10	20	
Lead [He]	0.096	0.00017	0.00100	"	0.100	ND	96.3	70-130	1.39	20	
Nickel [He]	0.094	0.00016	0.0400	"	0.100	0.015	79.9	70-130	2.37	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27031 - EPA 3510C DCN 4000 Rev 12											
Blank (1I27031-BLK1)											
Bis(2-ethylhexyl)phthalate	ND	0.37	1.08	ug/L							
Carbazole	ND	2.62	7.86	"							
4-Chloro-3-methylphenol	ND	0.27	1.65	"							
Dibenzofuran	ND	0.40	1.20	"							
2,4-Dimethylphenol	ND	0.19	1.05	"							
2,4-Dinitrophenol	ND	1.29	4.32	"							CC-01
Di-n-octyl phthalate	ND	0.29	1.70	"							
2-Methylphenol	ND	0.41	1.24	"							
3 & 4-Methylphenol	ND	1.13	3.39	"							
Pentachlorophenol	ND	0.06	1.00	"							
2,4,6-Trichlorophenol	ND	0.44	1.32	"							
Surrogate: 2,4,6-Tribromophenol	*5.09*			"	*10.0*		*50.9*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.22*			"	*5.00*		*64.4*	*21.3-100*			
Surrogate: 2-Fluorophenol	*5.68*			"	*10.0*		*56.8*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.68*			"	*5.00*		*53.6*	*18.4-100*			
Surrogate: Phenol-d5	*5.37*			"	*10.0*		*53.7*	*10-126*			
Surrogate: Terphenyl-dl4	*4.28*			"	*5.00*		*85.6*	*28.8-100*			
LCS (1I27031-BS1)											
Bis(2-ethylhexyl)phthalate	9.49	0.37	1.08	ug/L	10.0		94.9	42.2-107			
Carbazole	6.81	2.62	7.86	"	10.0		68.1	30.1-145			
4-Chloro-3-methylphenol	8.09	0.27	1.65	"	10.0		80.9	43.1-105			
Dibenzofuran	7.82	0.40	1.20	"	10.0		78.2	25-127			
2,4-Dimethylphenol	6.97	0.19	1.05	"	10.0		69.7	31.6-95.8			
2,4-Dinitrophenol	4.67	1.29	4.32	"	10.0		46.7	22.1-108			CC-03
Di-n-octyl phthalate	6.78	0.29	1.70	"	10.0		67.8	42.9-108			
2-Methylphenol	6.88	0.41	1.24	"	10.0		68.8	15.8-123			
3 & 4-Methylphenol	14.6	1.13	3.39	"	20.0		73.0	11.1-130			
Pentachlorophenol	4.63	0.06	1.00	"	10.0		46.3	28.8-111			
2,4,6-Trichlorophenol	8.71	0.44	1.32	"	10.0		87.1	44.4-104			
Surrogate: 2,4,6-Tribromophenol	*8.02*			"	*10.0*		*80.2*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.76*			"	*5.00*		*75.2*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.18*			"	*10.0*		*61.8*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.61*			"	*5.00*		*72.2*	*18.4-100*			
Surrogate: Phenol-d5	*7.03*			"	*10.0*		*70.3*	*10-126*			
Surrogate: Terphenyl-dl4	*4.09*			"	*5.00*		*81.8*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27031 - EPA 3510C DCN 4000 Rev 12											
LCS Dup (1I27031-BSD1)											
Bis(2-ethylhexyl)phthalate	9.99	0.37	1.08	ug/L	10.0		99.9	42.2-107	5.13	82	
Carbazole	7.67	2.62	7.86	"	10.0		76.7	30.1-145	11.9	40	
4-Chloro-3-methylphenol	9.03	0.27	1.65	"	10.0		90.3	43.1-105	11.0	73	
Dibenzofuran	8.06	0.40	1.20	"	10.0		80.6	25-127	3.02	40	
2,4-Dimethylphenol	7.49	0.19	1.05	"	10.0		74.9	31.6-95.8	7.19	58	
2,4-Dinitrophenol	7.12	1.29	4.32	"	10.0		71.2	22.1-108	41.6	132	CC-03
Di-n-octyl phthalate	7.73	0.29	1.70	"	10.0		77.3	42.9-108	13.1	69	
2-Methylphenol	7.32	0.41	1.24	"	10.0		73.2	15.8-123	6.20	40	
3 & 4-Methylphenol	15.6	1.13	3.39	"	20.0		77.8	11.1-130	6.37	40	
Pentachlorophenol	6.17	0.06	1.00	"	10.0		61.7	28.8-111	28.5	86	
2,4,6-Trichlorophenol	8.77	0.44	1.32	"	10.0		87.7	44.4-104	0.687	58	
Surrogate: 2,4,6-Tribromophenol	*9.37*			"	*10.0*		*93.7*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*3.59*			"	*5.00*		*71.8*	*21.3-100*			
Surrogate: 2-Fluorophenol	*6.05*			"	*10.0*		*60.5*	*0-200*			
Surrogate: Nitrobenzene-d5	*3.88*			"	*5.00*		*77.6*	*18.4-100*			
Surrogate: Phenol-d5	*7.25*			"	*10.0*		*72.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.94*			"	*5.00*		*78.8*	*28.8-100*			
Duplicate (1I27031-DUP1)		**Source: 2109390-01**									
Bis(2-ethylhexyl)phthalate	ND	0.39	1.16	ug/L		ND				45	
Carbazole	ND	2.80	8.41	"		ND				45	
4-Chloro-3-methylphenol	ND	0.29	1.76	"		ND				45	
Dibenzofuran	ND	0.43	1.28	"		ND				45	
2,4-Dimethylphenol	ND	0.20	1.12	"		ND				45	
2,4-Dinitrophenol	ND	1.38	4.62	"		ND				45	CC-01
Di-n-octyl phthalate	ND	0.31	1.82	"		ND				45	
2-Methylphenol	ND	0.44	1.33	"		ND				45	
3 & 4-Methylphenol	ND	1.21	3.63	"		ND				45	
Pentachlorophenol	ND	0.07	1.07	"		ND				45	
2,4,6-Trichlorophenol	ND	0.47	1.41	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*7.07*			"	*10.7*		*66.1*	*0-200*			
Surrogate: 2-Fluorobiphenyl	*2.97*			"	*5.35*		*55.6*	*21.3-100*			
Surrogate: 2-Fluorophenol	*3.20*			"	*10.7*		*29.9*	*0-200*			
Surrogate: Nitrobenzene-d5	*2.50*			"	*5.35*		*46.8*	*18.4-100*			
Surrogate: Phenol-d5	*2.19*			"	*10.7*		*20.5*	*10-126*			
Surrogate: Terphenyl-dl4	*3.53*			"	*5.35*		*66.0*	*28.8-100*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Blank (1I27038-BLK1)											
Acenaphthene	ND	1.13	10.0	ug/L							
Acenaphthylene	ND	1.07	10.0	"							
Anthracene	ND	0.99	10.0	"							
Benzo (a) anthracene	ND	0.87	10.0	"							
Benzo (b) fluoranthene	ND	1.03	10.0	"							
Benzo (k) fluoranthene	ND	1.01	10.0	"							
Benzo (a) pyrene	ND	0.98	10.0	"							
Bis(2-ethylhexyl)phthalate	ND	1.14	10.0	"							
Carbazole	ND	0.90	10.0	"							
4-Chloro-3-methylphenol	ND	1.04	10.0	"							
Chrysene	ND	0.92	10.0	"							
Dibenz (a,h) anthracene	ND	0.67	10.0	"							
Dibenzofuran	ND	1.04	10.0	"							
2,4-Dimethylphenol	ND	0.84	10.0	"							
2,4-Dinitrophenol	ND	3.05	10.0	"							
Di-n-octyl phthalate	ND	1.35	10.0	"							CC-02
Fluoranthene	ND	0.93	10.0	"							
Fluorene	ND	1.01	10.0	"							
Indeno (1,2,3-cd) pyrene	ND	0.89	10.0	"							
2-Methylnaphthalene	ND	1.12	10.0	"							
2-Methylphenol	ND	0.88	10.0	"							
3 & 4-Methylphenol	ND	0.87	10.0	"							
Naphthalene	ND	1.09	10.0	"							
Pentachlorophenol	ND	2.72	10.0	"							
Phenanthrene	ND	0.93	10.0	"							
Pyrene	ND	1.09	10.0	"							
2,4,6-Trichlorophenol	ND	2.58	10.0	"							
Surrogate: 2,4,6-Tribromophenol	*72.3*			"	*100*		*72.3*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*41.1*			"	*50.0*		*82.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*56.9*			"	*100*		*56.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*29.9*			"	*50.0*		*59.7*	*10-100*			
Surrogate: Phenol-d5	*59.1*			"	*100*		*59.1*	*10-112*			
Surrogate: Terphenyl-dl4	*51.3*			"	*50.0*		*103*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
LCS (1I27038-BS1)											
Acenaphthene	75.7	1.13	10.0	ug/L	100		75.7	36.1-108			
Acenaphthylene	76.9	1.07	10.0	"	100		76.9	34.6-109			
Anthracene	75.8	0.99	10.0	"	100		75.8	36.4-106			
Benzo (a) anthracene	55.8	0.87	10.0	"	100		55.8	42.9-101			
Benzo (b) fluoranthene	70.5	1.03	10.0	"	100		70.5	43.7-105			
Benzo (k) fluoranthene	64.6	1.01	10.0	"	100		64.6	38.1-112			
Benzo (a) pyrene	76.3	0.98	10.0	"	100		76.3	46.5-104			
Bis(2-ethylhexyl)phthalate	81.0	1.14	10.0	"	100		81.0	25.1-113			
Carbazole	93.3	0.90	10.0	"	100		93.3	5.43-162			
4-Chloro-3-methylphenol	52.7	1.04	10.0	"	100		52.7	39.1-106			
Chrysene	84.3	0.92	10.0	"	100		84.3	43.2-103			
Dibenz (a,h) anthracene	71.0	0.67	10.0	"	100		71.0	31-119			
Dibenzofuran	96.1	1.04	10.0	"	100		96.1	37.6-110			
2,4-Dimethylphenol	45.6	0.84	10.0	"	100		45.6	36-100			
2,4-Dinitrophenol	49.9	3.05	10.0	"	100		49.9	10.5-124			
Di-n-octyl phthalate	102	1.35	10.0	"	100		102	33.6-111			CC-06
Fluoranthene	86.0	0.93	10.0	"	100		86.0	26.4-121			
Fluorene	82.3	1.01	10.0	"	100		82.3	36.9-109			
Indeno (1,2,3-cd) pyrene	67.0	0.89	10.0	"	100		67.0	35.6-116			
2-Methylnaphthalene	60.9	1.12	10.0	"	100		60.9	34.3-102			
2-Methylphenol	68.2	0.88	10.0	"	100		68.2	35-101			
3 & 4-Methylphenol	140	0.87	10.0	"	200		70.1	29.4-107			
Naphthalene	55.8	1.09	10.0	"	100		55.8	36.8-100			
Pentachlorophenol	45.2	2.72	10.0	"	100		45.2	15.1-115			
Phenanthrene	81.1	0.93	10.0	"	100		81.1	36.4-110			
Pyrene	57.5	1.09	10.0	"	100		57.5	23.9-114			
2,4,6-Trichlorophenol	57.6	2.58	10.0	"	100		57.6	36-104			
Surrogate: 2,4,6-Tribromophenol	*62.9*			"	*100*		*62.9*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.2*			"	*50.0*		*70.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*55.3*			"	*100*		*55.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*23.0*			"	*50.0*		*46.1*	*10-100*			
Surrogate: Phenol-d5	*59.4*			"	*100*		*59.4*	*10-112*			
Surrogate: Terphenyl-dl4	*33.9*			"	*50.0*		*67.8*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
LCS Dup (1I27038-BSD1)											
Acenaphthene	90.7	1.13	10.0	ug/L	100		90.7	36.1-108	18.0	40	
Acenaphthylene	93.2	1.07	10.0	"	100		93.2	34.6-109	19.2	40	
Anthracene	97.8	0.99	10.0	"	100		97.8	36.4-106	25.3	40	
Benzo (a) anthracene	64.5	0.87	10.0	"	100		64.5	42.9-101	14.6	40	
Benzo (b) fluoranthene	78.0	1.03	10.0	"	100		78.0	43.7-105	10.2	40	
Benzo (k) fluoranthene	74.4	1.01	10.0	"	100		74.4	38.1-112	14.0	40	
Benzo (a) pyrene	89.0	0.98	10.0	"	100		89.0	46.5-104	15.3	40	
Bis(2-ethylhexyl)phthalate	96.2	1.14	10.0	"	100		96.2	25.1-113	17.2	40	
Carbazole	66.5	0.90	10.0	"	100		66.5	5.43-162	33.6	40	
4-Chloro-3-methylphenol	61.0	1.04	10.0	"	100		61.0	39.1-106	14.5	40	
Chrysene	69.0	0.92	10.0	"	100		69.0	43.2-103	20.0	40	
Dibenz (a,h) anthracene	76.4	0.67	10.0	"	100		76.4	31-119	7.27	40	
Dibenzofuran	65.5	1.04	10.0	"	100		65.5	37.6-110	37.9	40	
2,4-Dimethylphenol	57.3	0.84	10.0	"	100		57.3	36-100	22.8	40	
2,4-Dinitrophenol	59.4	3.05	10.0	"	100		59.4	10.5-124	17.4	40	
Di-n-octyl phthalate	105	1.35	10.0	"	100		105	33.6-111	3.40	40	CC-06
Fluoranthene	56.8	0.93	10.0	"	100		56.8	26.4-121	40.9	40	L3
Fluorene	100	1.01	10.0	"	100		100	36.9-109	19.9	40	
Indeno (1,2,3-cd) pyrene	72.2	0.89	10.0	"	100		72.2	35.6-116	7.36	40	
2-Methylnaphthalene	80.1	1.12	10.0	"	100		80.1	34.3-102	27.3	40	
2-Methylphenol	91.2	0.88	10.0	"	100		91.2	35-101	28.8	40	
3 & 4-Methylphenol	186	0.87	10.0	"	200		93.2	29.4-107	28.3	40	
Naphthalene	68.7	1.09	10.0	"	100		68.7	36.8-100	20.7	40	
Pentachlorophenol	54.1	2.72	10.0	"	100		54.1	15.1-115	17.9	40	
Phenanthrene	107	0.93	10.0	"	100		107	36.4-110	27.5	40	
Pyrene	70.5	1.09	10.0	"	100		70.5	23.9-114	20.4	40	
2,4,6-Trichlorophenol	67.3	2.58	10.0	"	100		67.3	36-104	15.6	40	
Surrogate: 2,4,6-Tribromophenol	*75.7*			"	*100*		*75.7*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*41.5*			"	*50.0*		*82.9*	*16.9-105*			
Surrogate: 2-Fluorophenol	*63.3*			"	*100*		*63.3*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.7*			"	*50.0*		*53.5*	*10-100*			
Surrogate: Phenol-d5	*68.1*			"	*100*		*68.1*	*10-112*			
Surrogate: Terphenyl-dl4	*44.6*			"	*50.0*		*89.2*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Duplicate (1I27038-DUP1)			**Source: 2109427-03**								
Acenaphthene	353	11.8	104	ug/L		287			20.8	45	
Acenaphthylene	ND	1.11	10.4	"		ND				45	
Anthracene	ND	1.03	10.4	"		ND				45	
Benzo (a) anthracene	ND	0.91	10.4	"		ND				45	
Benzo (b) fluoranthene	ND	1.07	10.4	"		ND				45	
Benzo (k) fluoranthene	ND	1.05	10.4	"		ND				45	
Benzo (a) pyrene	ND	1.02	10.4	"		ND				45	
Bis(2-ethylhexyl)phthalate	ND	1.19	10.4	"		ND				45	
Carbazole	266	9.34	104	"		244			8.68	45	
4-Chloro-3-methylphenol	ND	1.08	10.4	"		ND				45	
Chrysene	ND	0.96	10.4	"		ND				45	
Dibenz (a,h) anthracene	ND	0.70	10.4	"		ND				45	
Dibenzofuran	91.2	1.08	10.4	"		108			16.8	45	
2,4-Dimethylphenol	ND	0.88	10.4	"		ND				45	
2,4-Dinitrophenol	ND	3.18	10.4	"		ND				45	
Di-n-octyl phthalate	ND	1.41	10.4	"		ND				45	
Fluoranthene	14.8	0.97	10.4	"		8.47			54.4	45	P3
Fluorene	105	1.05	10.4	"		130			21.2	45	
Indeno (1,2,3-cd) pyrene	ND	0.92	10.4	"		ND				45	
2-Methylnaphthalene	ND	1.17	10.4	"		ND				45	
2-Methylphenol	ND	0.92	10.4	"		ND				45	
3 & 4-Methylphenol	ND	0.91	10.4	"		ND				45	
Naphthalene	380	11.4	104	"		239			45.5	45	P3
Pentachlorophenol	ND	2.83	10.4	"		ND				45	
Phenanthrene	80.7	0.97	10.4	"		54.0			39.5	45	
Pyrene	ND	1.14	10.4	"		ND				45	
2,4,6-Trichlorophenol	ND	2.69	10.4	"		ND				45	
Surrogate: 2,4,6-Tribromophenol	*83.3*			"	*104*		*80.0*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*38.2*			"	*52.1*		*73.3*	*16.9-105*			
Surrogate: 2-Fluorophenol	*68.6*			"	*104*		*65.9*	*10-100*			
Surrogate: Nitrobenzene-d5	*26.6*			"	*52.1*		*51.2*	*10-100*			
Surrogate: Phenol-d5	*62.3*			"	*104*		*59.8*	*10-112*			
Surrogate: Terphenyl-dl4	*40.8*			"	*52.1*		*78.3*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Semivolatile Organic Compounds by SW-846 Method 8270D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1I27038 - EPA 3520C DCN 4001 Rev 11											
Matrix Spike (1I27038-MS1)		**Source: 2109427-03**									
Acenaphthene	354	12.0	106	ug/L	106	287	63.0	10-121			
Acenaphthylene	52.0	1.14	10.6	"	106	ND	48.9	19-110			
Anthracene	55.3	1.05	10.6	"	106	ND	52.0	16.1-116			
Benzo (a) anthracene	66.0	0.93	10.6	"	106	ND	62.1	27.7-107			
Benzo (b) fluoranthene	72.9	1.10	10.6	"	106	ND	68.5	23.3-117			
Benzo (k) fluoranthene	75.9	1.07	10.6	"	106	ND	71.4	20.4-113			
Benzo (a) pyrene	85.6	1.04	10.6	"	106	ND	80.5	34.6-101			
Bis(2-ethylhexyl)phthalate	70.9	1.21	10.6	"	106	ND	66.7	10-108			
Carbazole	336	9.54	106	"	106	244	85.8	10-159			
4-Chloro-3-methylphenol	61.3	1.11	10.6	"	106	ND	57.6	19.8-110			
Chrysene	69.1	0.98	10.6	"	106	ND	65.0	25.6-113			
Dibenz (a,h) anthracene	92.6	0.71	10.6	"	106	ND	87.0	15.9-129			
Dibenzofuran	196	11.1	106	"	106	108	82.9	10-115			
2,4-Dimethylphenol	56.4	0.89	10.6	"	106	ND	53.0	17.2-115			
2,4-Dinitrophenol	83.4	3.24	10.6	"	106	ND	78.4	10-129			
Di-n-octyl phthalate	62.1	1.44	10.6	"	106	ND	58.4	21.1-102			
Fluoranthene	55.1	0.99	10.6	"	106	8.47	43.8	15-119			
Fluorene	205	10.7	106	"	106	130	71.2	10-125			
Indeno (1,2,3-cd) pyrene	84.0	0.94	10.6	"	106	ND	79.0	18.2-129			
2-Methylnaphthalene	50.6	1.19	10.6	"	106	ND	47.6	10-117			
2-Methylphenol	66.4	0.94	10.6	"	106	ND	62.4	10-106			
3 & 4-Methylphenol	139	0.93	10.6	"	213	ND	65.4	10-102			
Naphthalene	324	11.6	106	"	106	239	79.8	19.6-98.1			
Pentachlorophenol	123	2.89	10.6	"	106	ND	116	10-125			
Phenanthrene	78.7	0.99	10.6	"	106	54.0	23.2	16.9-120			
Pyrene	51.8	1.16	10.6	"	106	ND	48.6	12.3-105			
2,4,6-Trichlorophenol	68.1	2.74	10.6	"	106	ND	64.0	26.2-104			
Surrogate: 2,4,6-Tribromophenol	*88.8*			"	*106*		*83.5*	*16.7-116*			
Surrogate: 2-Fluorobiphenyl	*35.6*			"	*53.2*		*66.8*	*16.9-105*			
Surrogate: 2-Fluorophenol	*68.3*			"	*106*		*64.2*	*10-100*			
Surrogate: Nitrobenzene-d5	*30.1*			"	*53.2*		*56.6*	*10-100*			
Surrogate: Phenol-d5	*63.7*			"	*106*		*59.9*	*10-112*			
Surrogate: Terphenyl-dl4	*37.5*			"	*53.2*		*70.4*	*10-105*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J07034 - EPA 5030B											
Blank (1J07034-BLK1)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*46.6*			"	*50.0*		*93.2*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*54.4*			"	*50.0*		*109*	*87.4-116*			
Surrogate: Toluene-d8	*51.4*			"	*50.0*		*103*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.5*			"	*50.0*		*103*	*80.4-119*			
Blank (1J07034-BLK2)											
Benzene	ND	0.258	5.00	ug/L							
Ethylbenzene	ND	0.190	5.00	"							
Surrogate: Dibromofluoromethane	*55.2*			"	*50.0*		*110*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*57.0*			"	*50.0*		*114*	*87.4-116*			
Surrogate: Toluene-d8	*47.9*			"	*50.0*		*95.7*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*52.0*			"	*50.0*		*104*	*80.4-119*			
LCS (1J07034-BS1)											
Benzene	26.0	0.258	5.00	ug/L	20.0		130	64.2-144			
Ethylbenzene	25.8	0.190	5.00	"	20.0		129	64.9-150			
Surrogate: Dibromofluoromethane	*45.8*			"	*50.0*		*91.7*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.2*			"	*50.0*		*102*	*87.4-116*			
Surrogate: Toluene-d8	*50.7*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.2*			"	*50.0*		*102*	*80.4-119*			
LCS (1J07034-BS2)											
Benzene	22.7	0.258	5.00	ug/L	20.0		113	64.2-144			
Ethylbenzene	22.7	0.190	5.00	"	20.0		114	64.9-150			
Surrogate: Dibromofluoromethane	*50.8*			"	*50.0*		*102*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*51.5*			"	*50.0*		*103*	*87.4-116*			
Surrogate: Toluene-d8	*48.9*			"	*50.0*		*97.8*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.0*			"	*50.0*		*100*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J07034 - EPA 5030B											
LCS Dup (1J07034-BSD1)											
Benzene	25.8	0.258	5.00	ug/L	20.0		129	64.2-144	1.08	30	
Ethylbenzene	25.1	0.190	5.00	"	20.0		125	64.9-150	2.99	30	
Surrogate: Dibromofluoromethane	*46.4*			"	*50.0*		*92.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.9*			"	*50.0*		*99.8*	*87.4-116*			
Surrogate: Toluene-d8	*50.3*			"	*50.0*		*101*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*48.3*			"	*50.0*		*96.7*	*80.4-119*			
LCS Dup (1J07034-BSD2)											
Benzene	21.7	0.258	5.00	ug/L	20.0		109	64.2-144	4.28	30	
Ethylbenzene	21.3	0.190	5.00	"	20.0		107	64.9-150	6.35	30	
Surrogate: Dibromofluoromethane	*50.8*			"	*50.0*		*102*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*			"	*50.0*		*105*	*87.4-116*			
Surrogate: Toluene-d8	*48.3*			"	*50.0*		*96.6*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*48.9*			"	*50.0*		*97.8*	*80.4-119*			
Duplicate (1J07034-DUP1)			**Source: 2109469-04**								
Benzene	ND	0.258	5.00	ug/L		ND				35	
Ethylbenzene	13.3	0.190	5.00	"		11.1			17.6	35	
Surrogate: Dibromofluoromethane	*44.6*			"	*50.0*		*89.2*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.2*			"	*50.0*		*98.5*	*87.4-116*			
Surrogate: Toluene-d8	*51.8*			"	*50.0*		*104*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*51.0*			"	*50.0*		*102*	*80.4-119*			
Matrix Spike (1J07034-MS1)			**Source: 2109578-02**								
Benzene	22.4	0.258	5.00	ug/L	20.0	ND	112	70-149			
Ethylbenzene	20.8	0.190	5.00	"	20.0	ND	104	70.2-150			
Surrogate: Dibromofluoromethane	*44.9*			"	*50.0*		*89.8*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*50.2*			"	*50.0*		*100*	*87.4-116*			
Surrogate: Toluene-d8	*49.1*			"	*50.0*		*98.2*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.4*			"	*50.0*		*101*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Volatile Organic Compounds by EPA Method 8260D - Quality Control

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifiers
Batch 1J07034 - EPA 5030B											
Matrix Spike Dup (1J07034-MSD1)		**Source: 2109578-02**									
Benzene	21.3	0.258	5.00	ug/L	20.0	ND	107	70-149	4.99	35	
Ethylbenzene	19.9	0.190	5.00	"	20.0	ND	99.4	70.2-150	4.33	35	
Surrogate: Dibromofluoromethane	*45.2*			"	*50.0*		*90.5*	*83.9-122*			
Surrogate: 1,2-Dichloroethane-d4	*49.7*			"	*50.0*		*99.4*	*87.4-116*			
Surrogate: Toluene-d8	*50.1*			"	*50.0*		*100*	*81.4-118*			
Surrogate: 4-Bromofluorobenzene	*50.5*			"	*50.0*		*101*	*80.4-119*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Certified Analyses Included in this Report

Analyte	Certification Code
EPA 200.8 Rev 5.4 in Water	
Aluminum [He]	C01,C02
Antimony [He]	C01,C02
Antimony [HHe]	C01,C02
Antimony [NG]	C01,C02
Arsenic [He]	C01
Arsenic [HHe]	C01,C02
Arsenic [NG]	C01,C02
Barium [He]	C01,C02
Beryllium [He]	C01,C02
Boron [NG]	C01,C02
Cadmium [He]	C01
Cadmium [HHe]	C01,C02
Cadmium [NG]	C01,C02
Chromium [He]	C01,C02
Cobalt [He]	C01,C02
Copper [He]	C01,C02
Copper [NG]	C01,C02
Iron [He]	C01,C02
Lead [He]	C01,C02
Lead [NG]	C01,C02
Manganese [He]	C01,C02
Molybdenum [He]	C01,C02
Nickel [He]	C01,C02
Selenium [He]	C01
Selenium [HHe]	C01,C02
Selenium [NG]	C01,C02
Silver [He]	C01,C02
Silver [NG]	C01,C02
Strontium [He]	C01,C02
Thallium [He]	C01,C02
Vanadium [He]	C01,C02
Zinc [He]	C01,C02
EPA 8260D in Water	
1,1,1,2-Tetrachloroethane	C01,C02
1,1,1-Trichloroethane	C01,C02
1,1,2,2-Tetrachloroethane	C01,C02
1,1,2-Trichloroethane	C01,C02
1,1,2-Trichlorotrifluoroethane	C01,C02
1,1-Dichloroethane	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

1,1-Dichloroethene	C01,C02
1,1-Dichloropropene	C01,C02
1,2,3-Trichlorobenzene	C01,C02
1,2,3-Trichloropropane	C01,C02
1,2,4- Trimethylbenzene	C01,C02
1,2,4-Trichlorobenzene	C01,C02
1,2-Dibromo-3-chloropropane	C01,C02
1,2-Dibromoethane (EDB)	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichloroethane	C01,C02
1,2-Dichloropropane	C01,C02
1,3,5-Trimethylbenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichloropropane	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dioxane	C01,C02
2,2-Dichloropropane	C01,C02
2-Butanone	C01,C02
2-Chlorotoluene	C01,C02
2-Hexanone	C01,C02
4-Chlorotoluene	C01,C02
4-Isopropyltoluene	C01,C02
4-Methyl-2-pentanone	C01,C02
Acetone	C01,C02
Acrolein	C01,C02
Acrylonitrile	C01,C02
Benzene	C01,C02
Bromobenzene	C01,C02
Bromochloromethane	C01,C02
Bromodichloromethane	C01,C02
Bromoform	C01,C02
Bromomethane	C01,C02
Carbon disulfide	C01,C02
Carbon Tetrachloride	C01,C02
Chlorobenzene	C01,C02
Chloroethane	C01,C02
Chloroform	C01,C02
Chloromethane	C01,C02
cis-1,2-Dichloroethene	C01,C02
cis-1,3-Dichloropropene	C01,C02
cis-1,4-Dichloro-2-butene	C01,C02
Dibromochloromethane	C01,C02
Dibromomethane	C01,C02
Dichlorodifluoromethane	C01,C02
Ethylbenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Hexachlorobutadiene	C01,C02
Hexane	C01,C02
Iodomethane	C01,C02
Isobutanol	C01,C02
Isopropylbenzene	C01,C02
m,p-Xylene	C01,C02
Methyl Acrylate	C01,C02
Methyl tert-Butyl Ether	C01,C02
Methylene chloride	C01,C02
Naphthalene	C01,C02
n-Butylbenzene	C01,C02
n-Propyl Benzene	C01,C02
o-Xylene	C01,C02
sec-Butyl Benzene	C01,C02
Styrene	C01,C02
t-Butyl Benzene	C01,C02
Tert-butyl alcohol	C01,C02
Tetrachloroethene	C01,C02
Toluene	C01,C02
trans-1,2-Dichloroethene	C01,C02
trans-1,3-Dichloropropene	C01,C02
trans-1,4-Dichloro-2-butene	C01,C02
Trichloroethene	C01,C02
Trichlorofluoromethane	C01,C02
Vinyl acetate	C01,C02
Vinyl chloride	C01,C02

EPA 8270D in Water

Acenaphthene	C01,C02
Acenaphthene	C01,C02
Naphthalene	C01,C02
2-Methylnaphthalene	C01,C02
Acenaphthylene	C01,C02
Acenaphthylene	C01,C02
Aniline	C01,C02
Aniline	C01,C02
Acenaphthylene	C01,C02
Anthracene	C01,C02
Anthracene	C01,C02
Acenaphthene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (a) anthracene	C01,C02
Benzo (b) fluoranthene	C01,C02
Benzo (b) fluoranthene	C01,C02
Fluorene	C01,C02
Benzo (k) fluoranthene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Benzo (k) fluoranthene	C01,C02
Phenanthrene	C01,C02
Anthracene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (g,h,i) perylene	C01,C02
Benzo (a) pyrene	C01,C02
Benzo (a) pyrene	C01,C02
Fluoranthene	C01,C02
Benzyl alcohol	C01,C02
Benzyl alcohol	C01,C02
Pyrene	C01,C02
Benzo (a) anthracene	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethoxy)methane	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Bis(2-chloroethyl)ether	C01,C02
Chrysene	C01,C02
Benzo (b) fluoranthene	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Bis(2-chloroisopropyl)ether	C01,C02
Benzo (k) fluoranthene	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
Bis(2-ethylhexyl)phthalate	C01,C02
4-Bromophenyl phenyl ether	C01,C02
4-Bromophenyl phenyl ether	C01,C02
Benzo (a) pyrene	C01,C02
Butyl benzyl phthalate	C01,C02
Butyl benzyl phthalate	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Carbazole	C01,C02
Carbazole	C01,C02
Dibenz (a,h) anthracene	C01,C02
4-Chloroaniline	C01,C02
4-Chloroaniline	C01,C02
Benzo (g,h,i) perylene	C01,C02
4-Chloro-3-methylphenol	C01,C02
4-Chloro-3-methylphenol	C01,C02
2-Chloronaphthalene	C01,C02
2-Chloronaphthalene	C01,C02
2-Chlorophenol	C01,C02
2-Chlorophenol	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
4-Chlorophenyl phenyl ether	C01,C02
Chrysene	C01,C02
Chrysene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS
PO Box 15369
Hattiesburg MS, 39404-5369

Project: Mobile Quarterly Wells New Permit
Project Number: 3rd Quarter
Project Manager: Ethan Allen

Reported:
12/22/2021 12:38

Dibenz (a,h) anthracene	C01,C02
Dibenz (a,h) anthracene	C01,C02
Dibenzofuran	C01,C02
Dibenzofuran	C01,C02
Di-n-butyl phthalate	C01,C02
Di-n-butyl phthalate	C01,C02
1,2-Dichlorobenzene	C01,C02
1,2-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,3-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
1,4-Dichlorobenzene	C01,C02
3,3'-Dichlorobenzidine	C01,C02
2,4-Dichlorophenol	C01,C02
2,4-Dichlorophenol	C01,C02
Diethyl phthalate	C01,C02
Diethyl phthalate	C01,C02
2,4-Dimethylphenol	C01,C02
2,4-Dimethylphenol	C01,C02
Dimethyl phthalate	C01,C02
Dimethyl phthalate	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
4,6-Dinitro-2-methylphenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrophenol	C01,C02
2,4-Dinitrotoluene	C01,C02
2,4-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
2,6-Dinitrotoluene	C01,C02
Di-n-octyl phthalate	C01,C02
Di-n-octyl phthalate	C01,C02
Fluoranthene	C01,C02
Fluoranthene	C01,C02
Fluorene	C01,C02
Fluorene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobenzene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorobutadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachlorocyclopentadiene	C01,C02
Hexachloroethane	C01,C02
Hexachloroethane	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02
Indeno (1,2,3-cd) pyrene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Isophorone	C01,C02
Isophorone	C01,C02
1-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylnaphthalene	C01,C02
2-Methylphenol	C01,C02
2-Methylphenol	C01,C02
3 & 4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
4-Methylphenol	C01,C02
Naphthalene	C01,C02
Naphthalene	C01,C02
2-Nitroaniline	C01,C02
2-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
3-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
4-Nitroaniline	C01,C02
Nitrobenzene	C01,C02
Nitrobenzene	C01,C02
2-Nitrophenol	C01,C02
2-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
4-Nitrophenol	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodimethylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodiphenylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
N-Nitrosodi-n-propylamine	C01,C02
Pentachlorophenol	C01,C02
Pentachlorophenol	C01,C02
Phenanthrene	C01,C02
Phenanthrene	C01,C02
Phenol	C01,C02
Phenol	C01,C02
Pyrene	C01,C02
Pyrene	C01,C02
Pyridine	C01,C02
Pyridine	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
2,3,4,5-Tetrachlorophenol	C02
2,3,5,6-Tetrachlorophenol	C01,C02
2,3,5,6-Tetrachlorophenol	C01,C02
1,2,4-Trichlorobenzene	C01,C02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

1,2,4-Trichlorobenzene	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,5-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
2,4,6-Trichlorophenol	C01,C02
n-Decane	C01,C02
n-Decane	C01,C02
n-Octadecane	C01,C02
n-Octadecane	C01,C02
2,3,4,6-Tetrachlorophenol	C01,C02
Azobenzene	C01,C02
Azobenzene	C01,C02
Benzidine	C01,C02
Benzidine	C01,C02

Lachat 10-107-06-1-I in Water

Ammonia as N	C01,C02

SM 2510 B-2011 in Water

Specific Conductance (EC)	C01,C02

SM 4500-H+B-2011 in Water

pH	C01,C02

****Only compounds included in this list are associated with accredited analyses****

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Laboratory Accreditations/Certifications

Code	Description	Number	Expires
C01	LA Environmental Lab Accreditation Program	01960	06/30/2022
C02	The NELAC Institute (NELAP)	TNI01397	06/30/2022
C03	Ms Dept of Health (Drinking Water Microbiology)	MS00021	12/31/2021
C04	Ms Dept of Health (Drinking Water Chemistry)	MS00021	12/31/2021
C05	Ms DEQ Lead Firm Certification	PBF-00000028	03/24/2022
C06	MsDEQ Asbestos Inspector : C.D. Bingham	ABI-00001348	02/12/2022
C07	MsDEQ Air Monitor : C.D. Bingham	AM-011572	02/13/2022
C08	MsDEQ Asbestos Inspector: C. W. Meins	ABI-00001821	09/09/2022
C09	MsDEQ Air Monitor : C.W. Meins	AM-011189	02/13/2022
C14	MsDEQ Lead Paint Inspector : C.D. Bingham	PBI-00003690	03/24/2022
C15	MsDEQ Lead Paint Inspector : C.W. Meins	PBI-00001740	03/24/2022

Report Definitions

TNC	Too Numerous To Count
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the minimum reporting limit
NR	Not Reported
RPD	Relative Percent Difference
ICV	Initial Calibration Verfiication
CCV	Continuing Calibration Verification Standard
SSV	Secondary Source Verfication Standard
LCS	Lab Control Spike - Lab matrix prepared with known concentration of analyte/s of interest analyzed by method.
MS	Matrix Spike - Sample prepared with known concentration of analyte/s of interest analyzed by method.
MSD	Matrix Spike Duplicate - Duplicate sample prepared with known concentration of anlayte/s of interest analyzed by method.
MRL	Minimum Reporting Limit
%REC	Percentage Recovery of known concentration added to matrix
Batch	Group of samples prepared for analysis not to exceed 20 samples.
Matrix	Material containing analyte/s of interest
Surrogate	Analyte added to sample to determine extraction efficiency of method.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MICRO-METHODS LABORATORY, INC.

6500 Sunplex Drive
Ocean Springs, MS 39564
228-875-6420 Phone
228-875-6423 Fax

Cavenham Forest Ind./EMS	Project: Mobile Quarterly Wells New Permit	
PO Box 15369	Project Number: 3rd Quarter	**Reported:**
Hattiesburg MS, 39404-5369	Project Manager: Ethan Allen	12/22/2021 12:38

Analyst Initials Key

FullName	Initials
Brett S Fore	BSF
Christa R Gray	CRG
Christina L Vorhoff	CRLV
Dortha L. Wells	DLW
Howard Mitch Spicer	HMS
Kristy L. Pierce	KLP
Sarah E. Tomek	SET
Samantha C. Hall	SCH
Stella S Kleist	SSK
Teresa Meins	TKM
Zain A Kleist	ZAK

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Print Form

MICRO-METHODS LABORATORY, INC.
PO Box 1410, Ocean Springs, MS 39566-1410
(228) 875-6420 FAX (228) 875-6423
www.micromethodslab.com

Chain of Custody Record

Lab ID# MS00021
LELAP ID # 01960
TNI ID # TNI01397

M-M Lab WO # 21094469

Company Name: CAVENHAM FOREST IND.	Project Manager: ETHAN ALLEN
Address: P.O BOX 15369	Purchase Order #:
City: HATTIESBURG State: MS Zip: 39404	Email Address : EALLEN@ENV-MGT.COM
Phone: 601-544-3674	Sampler Name Printed: JEFF GONSOULIN
Fax: 601-544-0504	Sampler Name Signed:

Turn Around Time & Reporting

Our normal turn around time is 10 working days

_x_Normal __Next Day* __2nd Day* __Other*_____

*All rush order requests must be prior approved.

__Phone __Mail __Fax __Email

QC Level: Level 1 [ ] Level 2 [X] Level 3 [ ]

Project Name: MOBILE CFI 3RD QTR

Project #:

List Analyses Requested

Sample Identification	Sampling Date/Time	Matrix Code	# of Containers	Grab (G) or Composite (C)	PH,COND	CHLORIDE	NITRATE	AMMONIA	METALS	BNA	VOA
Preservative:											
E-1	9-23-21/13:00	W	9	G	X	X	X	X	X	X	X
UG-2	9-23-21/11:15	W	9	G	X	X	X	X	X	X	X
T-1	9-23-21/10:45	W	7	G	X	X	X	X	X	X	X
T-2	9-23-21/10:15	W	7	G	X	X	X	X	X	X	X
TBV# 6775	9-23-21/10:15	W	2	G							X

Field Testing

ID# Field Test	ID# Field Test	ID# Field Test	ID# Field Test

Matrix:
W = Water
DW = Drinking Water
S = Solid
SO = Soil
SE = Sediment
L = Liquid
A = Air
O = Oil
SL = Sludge

Preservation:
1= H2SO4
2= H3PO4
3=NaOH
4=ZnC4H10O6
5=ZnC4H10O6 & NaOH
6=HNO3
7=Na2S2O3
8=HCl
9=NaHSO4

Received on Ice? (Y) N Thermometer# 5 Cooler # Client **Receipt Temp Corrected(°C)** 0.4

Date & Time _____ By: SL Sample____ Blank X Cooler_____

All Temps are Corrected Values

	Printed Name	Signature	Company	Date	Time
Relinquished by	Jeff Gonsoulin		EMS	9-24-21	9:20
Received by	Stella Kleist	Stella Kleist	MM	9-24-21	8:20
Relinquished by					
Received by					
Relinquished by					
Received by					

Notes:

client cooler #2
-0.1°C temp blank

Physical Address: 6500 Sunplex Drive, Ocean Springs MS 39564

ATTACHMENT N

GROUNDWATER APPENDIX IX LABORATORY REPORTS

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

JAMES RIVER CORPORATION
CORPORATE ENVIRONMENTAL SERVICES-WEST
904 N.W. Drake Street, Camas, WA 98607-1099 (206) 834-4444

1st Quarter 87

RECEIVED
MAY 18 1987
TREATED WOOD PRODUCTS
ENVIRONMENTAL SERV.

May 14, 1987

Mr. George Brown
Cavenham Forest Industries
Treated Wood Products
P. O. Box 2219
Gulfport, MI 39503

Dear George:

Re: 159-163: Mobile Groundwater Appendix IX Constituents

Samples of groundwater received here March 27 have been analyzed for organic priority pollutants, metals, cyanide, and sulfide. Additional parameters required for the Appendix IX analyses were sent to another laboratory and we will forward those results to you as soon as they are available. Results are shown in Tables 1 through 5 based upon the samples as received. Chain-of-custody information is shown in Appendix A.

No unusual components were detected besides those expected from creosote/pentachlorophenol contamination. The upgradient well (UG-2) contained elevated levels of phenolic components (2,4-Dimethyl Phenol) relative to the polynuclear aromatics (naphthalene,etc.) expected from creosote contamination. Also the ratio of polynuclear aromatics observed in UG-2 did not match those normally observed from creosote contamination.

Please call if we can be of further assistance.

Very truly yours,

Dave Edelman, Jr.

DAVE EDELMAN, JR., Ph.D.
Environmental Laboratory
Coordinator

cc:
Frank Vincent - Neenah
Dave Minvielle - CFI/Gulfport

Table 1A

3/26/87 CFI/Mobile Groundwater Volatile Organics Content

As Received Basis (Laboratory Reference 159)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Chloromethane	.03	ND	ND	ND
Bromethane	.02	ND	ND	ND
Vinyl chloride	.05	ND	ND	ND
Chloroethane	.01	ND	ND	ND
Dichloromethane	.002	ND	TR	ND
Trichlorofluoromethane	.005	ND	ND	ND
1,1-Dichloroethylene	.001	ND	ND	ND
1,1-Dichloroethane	.001	ND	ND	ND
Z-1,2-Dichloroethylene	.001	ND	ND	ND
Chloroform	.001	ND	ND	ND
1,2-Dichloroethane	.001	ND	ND	ND
1,1,1-Trichloroethane	.001	ND	ND	ND
Carbon tetrachloride	.002	ND	ND	ND
Bromodichloromethane	.001	ND	ND	ND
1,2-Dichloropropane	.002	ND	ND	ND
Z-1,3-Dichloropropylene	.001	ND	ND	ND
Trichloroethylene	.001	ND	ND	ND
Benzene	.001	ND	0.13	.016
Dibromochloromethane	.001	ND	ND	ND
Z-1,3-Dichloropropylene	.002	ND	ND	ND
1,1,2-Trichloroethane	.003	ND	ND	ND
2-Chloroethylvinyl ether	.008	ND	ND	ND
Bromoform	.001	ND	ND	ND
Tetrachloroethylene	.001	ND	ND	ND
1,1,2,2-Tetrachloroethane	.001	ND	ND	ND
Toluene	.002	ND	TR	.022
Chlorobenzene	.001	ND	ND	ND
Ethylbenzene	.001	ND	ND	0.13
Xylenes	.002	ND	.011	0.11

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences and could not be positively confirmed as being present in the sample.

Table 1A (Continued)

3/26/87 CFI/Mobile Groundwater Volatile Organics Content

As Received Basis (Laboratory Reference 159)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Chloromethane	.03	ND	ND	ND	ND
Bromethane	.02	ND	ND	ND	ND
Vinyl chloride	.05	ND	ND	ND	ND
Chloroethane	.01	ND	ND	ND	ND
Dichloromethane	.002	TR	ND	ND	ND
Trichlorofluoromethane	.005	ND	ND	ND	ND
1,1-Dichloroethylene	.001	ND	ND	ND	ND
1,1-Dichloroethane	.001	ND	ND	ND	ND
Z-1,2-Dichloroethylene	.001	ND	ND	ND	ND
Chloroform	.001	ND	ND	ND	ND
1,2-Dichloroethane	.001	ND	ND	ND	ND
1,1,1-Trichloroethane	.001	ND	ND	ND	ND
Carbon tetrachloride	.002	ND	ND	ND	ND
omodichloromethane	.001	ND	ND	ND	ND
,2-Dichloropropane	.002	ND	ND	ND	ND
Z-1,3-Dichloropropylene	.001	ND	ND	ND	ND
Trichloroethylene	.001	ND	ND	ND	ND
Benzene	.001	.031	.014	ND	ND
Dibromochloromethane	.001	ND	ND	ND	ND
Z-1,3-Dichloropropylene	.002	ND	ND	ND	ND
1,1,2-Trichloroethane	.003	ND	ND	ND	ND
2-Chloroethylvinyl ether	.008	ND	ND	ND	ND
Bromoform	.001	ND	ND	ND	ND
Tetrachloroethylene	.001	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	.001	ND	ND	ND	ND
Toluene	.002	.043	.037	ND	ND
Chlorobenzene	.001	ND	ND	ND	ND
Ethylbenzene	.001	.038	.037	ND	ND
Xylenes	.002	0.14	0.10	ND	ND

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences and could not be positively confirmed as being present in the sample.

Table 1B

3/26/87 CFI/Mobile Groundwater Volatile Organics Content

As Received Basis (Laboratory Reference 159)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Dichlorofluoromethane	.02	ND	ND	ND
Acrylonitrile	.05	ND	ND	ND
Carbon Disulfide	.005	ND	ND	ND
Acetone	.05	ND	ND	ND
Methyl Ethyl Ketone	.005	ND	ND	ND
Isobutyl Alcohol	0.2	ND	ND	ND
Vinyl Acetate	.001	ND	ND	ND
1,4-Dioxane	.005	ND	ND	ND
Acrolein	0.2	ND	ND	ND
2-Hexanone	.01	ND	ND	ND
1,3-Dichlorobenzene	.001	ND	ND	ND
1,2-Dichlorobenzene	.001	ND	ND	ND
1,4-Dichlorobenzene	.001	ND	ND	ND

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences and could not be positively confirmed as being present in the sample.

Table 1B (Continued)

3/26/87 CFI/Mobile Groundwater Volatile Organics Content

As Received Basis (Laboratory Reference 159)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Dichlorofluoromethane	.02	ND	ND	ND	ND
Acrylonitrile	.05	ND	ND	ND	ND
Carbon Disulfide	.005	ND	ND	ND	ND
Acetone	.05	ND	ND	ND	ND
Methyl Ethyl Ketone	.005	ND	ND	ND	ND
Isobutyl Alcohol	0.2	ND	ND	ND	ND
Vinyl Acetate	.001	ND	ND	ND	ND
1,4-Dioxane	.005	ND	ND	ND	ND
Acrolein	0.2	ND	ND	ND	ND
2-Hexanone	.01	ND	ND	ND	ND
1,3-Dichlorobenzene	.001	ND	ND	ND	ND
1,2-Dichlorobenzene	.001	ND	ND	ND	ND
1,4-Dichlorobenzene	.001	ND	ND	ND	ND

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences and could not be positively confirmed as being present in the sample.

Table 2

3/26/87 CFI/Mobile Groundwater Acid Extractables

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Phenol	.001	ND	ND	.009
2-Chlorophenol	.001	ND	ND	ND
2-Nitrophenol	.002	ND	ND	ND
2,4-Dimethylphenol	.001	0.15	.006	0.35
2,4-Dichlorophenol	.001	ND	ND	ND
4-Chloro-3-methylphenol	.002	ND	ND	ND
2,4,6-Trichlorophenol	.001	ND	ND	ND
2,4-Dinitrophenol	.008	ND	ND	ND
4-Nitrophenol	.004	ND	ND	ND
2-Methyl-4,6-dinitrophenol	.003	ND	ND	ND
Pentachlorophenol	.001	ND	TR	.077
2,3,4,6-Tetrachlorophenol	.001	ND	TR	.013

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences or contamination.

Table 2 (Continued)

3/26/87 CFI/Mobile Groundwater Acid Extractables

As Received Basis (Laboratory Reference 162)

Parameter	Analytical Result in mg/L (ppm) Detection Limit Estimates	B-19	B-30	B-36	B-37
Phenol	.001	.029	004	ND	ND
2-Chlorophenol	.001	ND	ND	ND	ND
2-Nitrophenol	.002	ND	ND	ND	ND
2,4-Dimethylphenol	.001	0.15	.094	ND	ND
2,4-Dichlorophenol	.001	ND	ND	ND	ND
4-Chloro-3-methylphenol	.002	ND	ND	ND	ND
2,4,6-Trichlorophenol	.001	ND	ND	ND	ND
2,4-Dinitrophenol	.008	ND	ND	ND	ND
4-Nitrophenol	.004	ND	ND	ND	ND
2-Methyl-4,6-dinitrophenol	.003	ND	ND	ND	ND
Pentachlorophenol	.001	TR	ND	ND	ND
2,3,4,6-Tetrachlorophenol	.001	ND	ND	ND	ND

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences or contamination.

Table 3A

3/26/87 CFI/Mobile Groundwater Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Acenaphthene	.001	.005	.002	0.39
Acenaphthylene	.001	.002	TR	.015
Anthracene	.001	ND	NO	.010
Benzo(a)anthracene	.001	ND	ND	.004
Benzo(a)pyrene	.001	ND	ND	ND
Benzo(g,h,i)perylene	.001	ND	ND	ND
Benzo(b&k)fluoranthene	.001	ND	ND	ND
bis-(2-Chloroethoxy) methane	.002	ND	ND	ND
bis-(2-chloroethyl) ether	.002	ND	ND	ND
bis-(2-Chloroisopropyl) ether	.003	ND	ND	ND
bis-(2-Ethylhexyl) phthalate	.001	ND	ND	ND
4-Bromophenyl Phenyl Ether	.001	ND	ND	ND
Butyl Benzyl Phthalate	.001	ND	ND	ND
2-Chloronapthalene	.001	ND	ND	ND
4-Chlorophenyl Phenyl Ether	.001	ND	ND	ND
Chrysene	.001	ND	ND	.001
Dibenzo(a,h)anthracene	.001	ND	ND	ND
1,2-Dichlorobenzene	.001	ND	ND	ND
1,3-Dichlorobenzene	.001	ND	ND	ND
1,4-Dichlorobenzene	.001	ND	ND	ND
Diethylphthalate	.001	TR	ND	ND

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive intereferences or contamination.

Table 3B

3/26/87 CFI/Mobile Groundwater Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
2,3,7,8-Dioxin	.001	ND	ND	ND
Dimethylphthalate	.001	ND	ND	ND
Di-n-butylphthalate	.001	ND	ND	ND
2,4-Dinitrotoluene	.003	ND	ND	ND
2,6-Dinitrotoluene	.003	ND	ND	ND
Di-n-octyl phthalate	.001	ND	ND	ND
Fluoranthene	.001	ND	ND	.017
Fluorene	.001	TR	ND	0.21
Hexachlorobenzene	.001	ND	ND	ND
Hexachlorobutadiene	.002	ND	ND	ND
Hexachlorocyclopentadiene	.01	ND	ND	ND
Hexachloroethane	.002	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	.001	ND	ND	ND
Isophorone	.002	.002	ND	.017
Naphthalene	.001	.002	.010	3.7
Nitrobenzene	.002	ND	ND	ND
Phenanthrene	.001	TR	TR	0.14
Pyrene	.001	ND	ND	.008
1,2,4-Trichlorobenzene	.001	ND	ND	ND
n-Nitrosodi-n-propylamine	.002	ND	ND	ND
n-Nitrosodiphenylamine	.004	ND	ND	ND
Benzidine	.03	ND	ND	ND
3,3-Dichlorobenzidine	.03	ND	ND	ND

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences or contamination.

Table 4

3/26/87 CFI/Mobile Groundwater Pesticides/PCB Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Aldrin	.002	ND	ND	ND
beta-BHC	.002	ND	ND	ND
delta-BHC	.002	ND	ND	ND
Clordane	.01	ND	ND	ND
4,4'-DDT	.001	ND	ND	ND
4,4'-DDE	.001	ND	ND	ND
4,4'-DDD	.001	ND	ND	ND
Dieldrin	.001	ND	ND	ND
Endosulfan sulfate	.003	ND	ND	ND
Heptachlor	.003	ND	ND	ND
Heptachlor epoxide	.004	ND	ND	ND
PCB-1242	.006	ND	ND	ND
PCB-1254	.006	ND	ND	ND
PCB-1221	.006	ND	ND	ND
PCB-1232	.006	ND	ND	ND
PCB-1248	.006	ND	ND	ND
PCB-1260	.006	ND	ND	ND
PCB-1016	.006	ND	ND	ND
Toxaphene	.006	ND	ND	ND

ND means none detected.

Table 4 (Continued)

3/26/87 CFI/Mobile Groundwater Pesticides/PCB Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Aldrin	.002	ND	ND	ND	ND
beta-BHC	.002	ND	ND	ND	ND
delta-BHC	.002	ND	ND	ND	ND
Clordane	.01	ND	ND	ND	ND
4,4'-DDT	.001	ND	ND	ND	ND
4,4'-DDE	.001	ND	ND	ND	ND
4,4'-DDD	.001	ND	ND	ND	ND
Dieldrin	.001	ND	ND	ND	ND
Endosulfan sulfate	.003	ND	ND	ND	ND
Heptachlor	.003	ND	ND	ND	ND
Heptachlor epoxide	.004	ND	ND	ND	ND
PCB-1242	.006	ND	ND	ND	ND
PCB-1254	.006	ND	ND	ND	ND
PCB-1221.	.006	ND	ND	ND	ND
PCB-1232	.006	ND	ND	ND	ND
PCB-1248	.006	ND	ND	ND	ND
PCB-1260	.006	ND	ND	ND	ND
PCB-1016	.006	ND	ND	ND	ND
Toxaphene	.006	ND	ND	ND	ND

ND means none detected.

Table 5

3/26/87 CFI/Mobile Groundwater Metals and Inorganics Components

As Received Basis (Laboratory Reference 160-161)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Aluminum	.01	0.11	0.18	1.3
Antimony	.005	ND	ND	ND
Arsenic	.005	ND	ND	.007
Boron	.001	.044	0.22	0.10
Barium	.001	.036	0.10	.047
Berylium	.001	ND	ND	ND
Cadmium	.001	.002	ND	ND
Calcium	0.1	2.3	94.	89.
Chromium	.002	ND	ND	.002
Copper	.003	.003	ND	ND
Iron	.01	.093	0.28	0.90
Potassium	0.1	0.6	21.	12.
Lead	.009	ND	ND	.010
Magnesium	.02	2.8	89	26.
Manganese	.003	.078	0.39	0.24
Mercury	.0005	ND	ND	ND
Nickel	.002	.003	ND	ND
Phosphorous	.01	.011	0.46	0.10
Selenium	.005	ND	ND	ND
Silver	.003	ND	ND	ND
Sodium	.02	23.	410.	180
Thallium	.02	ND	ND	ND
Tin	.007	ND	ND	ND
Titanium	.001	ND	ND	ND
Zinc	.01	.049	.007	.019
Sulfide	0.2	ND	ND	ND
Cyanide	.005	ND	ND	ND

ND means none detected.

Table 5 (Continued)

3/26/87 CFI/Mobile Groundwater Metals and Inorganics Components

As Received Basis (Laboratory Reference 160-161)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Aluminum	.01	.040	0.28	0.13	0.16
Antimony	.005	ND	ND	ND	ND
Arsenic	.005	ND	ND	ND	ND
Boron	.001	.076	.052	.057	.034
Barium	.001	.069	0.23	0.30	0.12
Berylium	.001	ND	ND	ND	ND
Cadmium	.001	ND	ND	ND	ND
Calcium	0.1	29.	18.	21.	10.
Chromium	.002	ND	ND	ND	ND
Copper	.003	ND	.005	ND	ND
Iron	.01	0.45	12.	15.	0.30
Potassium	0.1	8.3	5.2	6.5	4.2
Lead	.009	.011	ND	.012	.012
Magnesium	.02	21.	16.	19.	9.8
Manganese	.003	0.72	0.51	0.60	0.38
Mercury	.0005	ND	ND	ND	ND
Nickel	.002	.012	.004	.003	.008
Phosphorous	.01	0.12	.032	.040	.023
Selenium	.005	ND	ND	ND	ND
Silver	.003	ND	ND	ND	ND
Sodium	.02	170.	120.	140.	61.
Thallium	.02	ND	ND	ND	ND
Tin	.007	ND	ND	ND	.008
Titanium	.001	ND	ND	ND	ND
Zinc	.01	0.16	.044	.014	.034
Sulfide	0.2	ND	ND	ND	ND
Cyanide	.005	ND	ND	ND	ND

ND means none detected.

APPENDIX A

Chain-of-Custody Information

CAVENH[illegible] FOREST INDUSTRIES INC.

CHAIN-OF-C[illegible]STODY RECORD

Project/Number Cavenham Forest Industries

Location: MOBILE, ALABAMA

Shipping Container ID: ICE CHEST

Laboratory: JAMES RIVER CORPORATION CAMAS, WA.

Sampler(s) G. Brown

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	PH, CONDUCTIVITY TOC, METALS (1 QUART PLASTIC)	VOC (40 ML GLASS)	TOX (500 ML GLASS)	K001 + P3 LIST (1 LITER GLASS)								Total	Condition on Receipt Name & Date
B-3D	3/25/87	1	1	1	1								4	Good Cond
B-4A	3/25/87	1	1	1	1								4	
B-32	3/25/87	1	1	1	1								4	
Field blank		1	1	1	1								4	

Total No. of Containers 16

Relinquished by George Brown Organization: CFI

Date: 3-26-87 Time: 2:00 PM

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Received by: K Dan Stelmack Organization: JREGL

Date: 3/27/87 Time: ~11 AM

Received by: _____ Organization: _____

Date: _____ Time: _____

Received by: _____ Organization: _____

Date: _____ Time: _____

CAVENHAM FOREST INDUSTRIES INC.

CHAIN-OF-CUSTODY RECORD

Project/Number: CAVENHAM FOREST IND.

Location: MAIBLE, ALABAMA

Shipping Container ID: SMALL STYROFOAM CONT (1 of 7) Appendix IX)

Laboratory: TIMES RIVER CO. CAMAS, WASH.

Sampler(s): G. BROWN

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	VOA - Appendix IX 40 ml. Glass	Organic Non-VOA) App IX 1 Liter Glass	CN's 1 Qt plastic App IX	Metals (1 Qt plastic) App IX	Total	Condition on Receipt Name & Date
UG-2	3-25-87	1	3	1	1	6	Good & cold
FIELD BLANK		1				1	"

CAVENI FOREST INDUSTRIES INC.

CHAIN-OF-C TODY RECORD

Project/Number: CAVENHAM FOREST IND

Location: Mobile, ALA.

Shipping Container ID: MOBILE/ALA SMALL CONTAINER (KE) 2 of 7 Apr IX

Laboratory: James River Co CAMAS, WA

Sampler(s): C. Brown

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	VOA - Appendix IX 40 ml. Glass	DAG (Semi-Volatile) 1 Liter Glass	CN's (1Qt Plastic) Appl IX	METALS (1Qt Plastic) App IX										Total	Condition on Receipt Name & Date
B-19	3-25-87	1	3	1	1										6	GOOD C. Brown
Field Blank		1													1	↓

Total No. of Containers: 7

Relinquished by: C. Brown Organization: CFT

Date: 3-26-87 Time: 5:00 PM

Received by: [illegible] Organization: JRESL

Date: 3-27-87 Time: ~11 AM

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Received by: _____ Organization: _____

Date: _____ Time: _____

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Received by: _____ Organization: _____

Date: _____ Time: _____

Delivery Method: OK - Courier.

(attach shipping bill if any)

(Use extra sheets if necessary)

CAVENHAM FOREST INDUSTRIES INC.

CHAIN-OF-CUSTODY RECORD

Location: Mobile, Alabama

Project/Number: Cavenham Forrest Ind

Laboratory: James River Corp CAMAS, Wash.

Shipping Container ID: Small ICE Chest (3 of 7 Appendix IX)

Sampler(s): G. Brown

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	VOA - Appendix IX (40 ml Glass)	organic (semi-VOA Appendix IX (1 liter glass) (CW, S)	Appendix IX (1 qt plastic) Metals	Appendix IX 1 qt plastic	Total	Condition on Receipt Name & Date
B-37	3-25-87	1	3	1	1	6	Good & cold
Field blank		1				1	↓

CAVENH[illegible] FOREST INDUSTRIES INC.

CHAIN-OF-[illegible]TODY RECORD

Project/Number CAVENHAM FOREST IND.

Location: MOBILE, ALA

Shipping Container ID: SMALL STYROFOAM COOL 4 of 7 APP IX

Laboratory: JAMES RIVER [illegible] CAMAS, WA.

Sampler(s) GEORGE BROWN

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	VOA - APP IX 40 ML GLASS	ORG SEMI VOL GLASS APP IX	CN, S LIGHT PLASTIC APP IX	METALS LIGHT PLAST. APP IX								Total	Condition on Receipt Name & Date
16-36	3-25-87	1	3	1	1								6	GOOD & COLD
FIELD BLANK		1											1	↓

Total No. of Containers 7

Relinquished by: G. BROWN Organization: CFI

Date: 3-26-87 Time: 6:00 PM

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Delivery Method: OVERNITE [illegible]

Received by: DAVE SLUSHER Organization: JRESL

Date: 3-27-87 Time: ~11 AM

Received by: _____ Organization: _____

Date: _____ Time: _____

Received by: _____ Organization: _____

Date: _____ Time: _____

CAVENHAM FOREST INDUSTRIES INC.

CHAIN-OF-CUSTODY RECORD

Project/Number Cavenham Forest Industries

Location: Mobile, ALABAMA

Shipping Container ID: Small Ice chest 5 of 7 appendix IX

Laboratory: James River Corp
Camas, Wash

Sampler(s) G. Brown

SAMPLE IDENTITY	Date Sampled	SAMPLE CONTAINER DESCRIPTION: VOA Appendix IX	40 ml glass organics (semi-vol) Appendix IX	1 Liter glass (cn, s) Appendix IX	1 gt plastic Metals Appendix IX	1 gt plastic								Total	Condition on Receipt Name & Date
B-7	3/25/87	1	3	1	1									6	GOOD & COLD
Field blank		1												1	"

CAVEN[illegible] FOREST INDUSTRIES INC.

CHAIN-OF-[illegible]STODY RECORD

Project/Number CAVENHAM FOREST IND.

Location: Maine, Adm

Shipping Container ID: Small Styrofoam Cont. (6 of 7 App IX)

Laboratory: JAMES RIVER CAMA, WA.

Sampler(s) C. Brown

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	VOA - Apple 40 mL Glass	Oil (Semi-Vol) Apple Kitchen Glass	CN's (4oz Plastic) App IX	Metals (4oz Plastic) App IX								Total	Condition on Receipt Name & Date
12-30	3-25-87	1	3	1	1								6	Good & Cold
Field Blank		1											1	↓

CAVENHAM . OREST INDUSTRIES INC.

CHAIN-OF-CUSTODY RECORD

Project/Number Cavenham Forest IND.

Location: Mobile, ALABAMA

Shipping Container ID: Small Styrofoam cont 7 of 7 Appendix IX

Laboratory: James River Corp
Camas, WA.

Sampler(s) George Brown

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	VOA-Appendix IX 40 Mil. Cntrs	org (semi-vol) Appendix IX 1 liter glass (CN) 5	Appendix IX 1 gt. plastic metals	Appendix IX 1 gt. plastic								Total	Condition on Receipt Name & Date
B-4A	3-25-87	1	3	1	1								6	GOOD & COLD
Field blank		1											1	↓

JAMES RIVER CORPORATION
CORPORATE ENVIRONMENTAL SERVICES-WEST
904 N.W. Drake Street, Camas, WA 98607-1999 (206) 834-4444

June 1, 1987

Mr. George Brown
Cavenham Forest Industries
Treated Wood Products
P. O. Box 2219
Gulfport, MI 39503

Dear George:

Re: 159-163: Mobile Groundwater Appendix IX Constituents

Samples of groundwater received here March 27 have been analyzed for Appendix IX constituents. These are the additional parameters required for the Appendix IX analyses which were sent to another laboratory (5/14/87 letter from DLE to GB). Results are shown in Tables 1 through 5 based upon the samples as received.

No unusual components were detected besides those expected from creosote/pentachlorophenol contamination.

Please call if we can be of further assistance.

Very truly yours,

Dave Edelman, Jr.

DAVE EDELMAN, JR., Ph.D.
0507E

Environmental Laboratory
Coordinator

cc:
Frank Vincent - Neenah
Dave Minvielle - CFI/Gulfport

Table 1

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Acid Extractables

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Benzoic Acid	0.1 - 0.3	ND	ND	ND
2-Methylphenol	.02 - .05	ND	ND	0.15
4-Methylphenol	.02 - .05	ND	ND	0.20
2,4,5-Trichlorophenol	.02 - .05	ND	ND	ND

ND means none detected.

Table 1 (Continued)

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Acid Extractables

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Benzoic Acid	0.1 - 0.3	ND	ND	ND	ND
2-Methylphenol	.02 - .05	.048	TR	ND	ND
4-Methylphenol	.02 - .05	ND	.04	ND	ND
2,4,5-Trichlorophenol	.02 - .05	ND	ND	ND	ND

ND means none detected.

TR means trace detected less than estimated detection limit. TR may be the result of positive interferences or contamination.

Table 2

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant Pesticides Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Parathion	.02	ND	ND	ND
Methylparathion	.02	ND	ND	ND
Disulfoton	.02	ND	ND	ND
Pronamide	.02	ND	ND	ND
Phorate	.02	ND	ND	ND
Famahur	.02	ND	ND	ND
Zinophos	.02	ND	ND	ND
Sulfotepp	.02	ND	ND	ND
Pentachloronitrobenzene	.005	ND	ND	ND
Chlorobenzilate	.005	ND	ND	ND
Isodrin	.005	ND	ND	ND
Kepone	.005	ND	ND	ND
2,4-D	.005 - .02	ND	ND	ND
2,4,5-TP	.005 - .02	ND	ND	ND
2,4,5-T	.005 - .02	ND	ND	ND

ND means none detected.

Table 2 (Continued)

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant Pesticides Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Parathion	.02	ND	ND	ND	ND
Methylparathion	.02	ND	ND	ND	ND
Disulfoton	.02	ND	ND	ND	ND
Pronamide	.02	ND	ND	ND	ND
Phorate	.02	ND	ND	ND	ND
Famahur	.02	ND	ND	ND	ND
Zinophos	.02	ND	ND	ND	ND
Sulfotepp	.02	ND	ND	ND	ND
Pentachloronitrobenzene	.005	ND	ND	ND	ND
Chlorobenzilate	.005	ND	ND	ND	ND
Isodrin	.005	ND	ND	ND	ND
Kepone	.005	ND	ND	ND	ND
2,4-D	.005 - .02	ND	ND	ND	ND
2,4,5-TP	.005 - .02	ND	ND	ND	ND
2,4,5-T	.005 - .02	ND	ND	ND	ND

ND means none detected.

Table 3A

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
Aniline	.02 - .05	ND	ND	ND
Benzyl Alcohol	.02 - .05	ND	ND	ND
4-Chloroanoline	.02 - .05	ND	ND	ND
2-Nitroaniline	.02 - .05	ND	ND	ND
3-Nitroaniline	.02 - .05	ND	ND	ND
4-Nitroaniline	.02 - .05	ND	ND	ND
Safrole	.02 - .05	ND	ND	ND
Isosafrole	.02 - .05	ND	ND	ND
Acetophenone	.02 - .05	ND	ND	ND
N-Nitrosomethylethylamine	.02 - .05	ND	ND	ND
Hexachlorodibenzofurans	--	ND	ND	ND
Tetrachlorodibenzofurans	--	ND	ND	ND
Pentachlorodibenzofurans	--	ND	ND	ND

ND means none detected.

Table 3A (Continued)

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Aniline	.02 - .05	ND	ND	ND	ND
Benzyl Alcohol	.02 - .05	ND	ND	ND	ND
4-Chloroanoline	.02 - .05	ND	ND	ND	ND
2-Nitroaniline	.02 - .05	ND	ND	ND	ND
3-Nitroaniline	.02 - .05	ND	ND	ND	ND
4-Nitroaniline	.02 - .05	ND	ND	ND	ND
Safrole	.02 - .05	ND	ND	ND	ND
Isosafrole	.02 - .05	ND	ND	ND	ND
Acetophenone	.02 - .05	ND	ND	ND	ND
N-Nitrosomethylethylamine	.02 - .05	ND	ND	ND	ND
Hexachlorodibenzofurans	--	ND	ND	ND	ND
Tetrachlorodibenzofurans	--	ND	ND	ND	ND
Pentachlorodibenzofurans	--	ND	ND	ND	ND

ND means none detected.

Table 3B

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Analytical Result in mg/L (ppm) Detection Limit Estimates	UG-2	B-4A	B-7
Tris(2,3-Dibromopropyl)Phosphate	0.2 - 0.5	ND	ND	ND
1,2-Dibromo-3-Chloropropane	.02 - .05	ND	ND	ND
Hexachlorophene	0.2 - 0.5	ND	ND	ND
2-sec-Butyl-4,6-Dintrophenol	.04 - .1	ND	ND	ND
1,4-Naphthoquinone	.02 - .05	ND	ND	ND
2-Naphylamine	.02 - .05	ND	ND	ND
N-Nitrosomorpholine	.02 - .05	ND	ND	ND
Methapyrilene	.02 - .05	ND	ND	ND
2,3,7,8-TCDD	.003 - .008	ND	ND	ND
Hexachlorodibenzo-p-dioxins	--	ND	ND	ND
Pentachlorodibenzo-p-dioxins	--	ND	ND	ND
Tetrachlorodibenzo-p-dioxins	--	ND	ND	ND
Hexachloropropene	.02 - .05	ND	ND	ND

ND means none detected.

Table 3B (Continued)

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Analytical Result in mg/L (ppm)				
	Detection Limit Estimates	B-19	B-30	B-36	B-38
Tris(2,3-Dibromopropyl)Phosphate	0.2 - 0.5	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	.02 - .05	ND	ND	ND	ND
Hexachlorophene	0.2 - 0.5	ND	ND	ND	ND
2-sec-Butyl-4,6-Dintrophenol	.04 - .1	ND	ND	ND	ND
,4-Naphthoquinone	.02 - .05	ND	ND	ND	ND
2-Naphylamine	.02 - .05	ND	ND	ND	ND
N-Nitrosomorpholine	.02 - .05	ND	ND	ND	ND
Methapyrilene	.02 - .05	ND	ND	ND	ND
2,3,7,8-TCDD	.003 - .008	ND	ND	ND	ND
Hexachlorodibenzo-p-dioxins	--	ND	ND	ND	ND
Pentachlorodibenzo-p-dioxins	--	ND	ND	ND	ND
Tetrachlorodibenzo-p-dioxins	--	ND	ND	ND	ND
Hexachloropropene	.02 - .05	ND	ND	ND	ND

ND means none detected.

Table 3C

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Analytical Result in mg/L (ppm) Detection Limit Estimates	UG-2	B-4A	B-7
Resorcinol	.02 - .05	ND	ND	ND
Benzenethiol	.04 - 0.1	ND	ND	ND
Malononitrile	.04 - 0.1	ND	ND	ND
N-Nitrosopyrrolidine	.04 - 0.1	ND	ND	ND
Aramite	.04 - 0.1	ND	ND	ND
7,12-Dimethylbenz(A)Anthracene	.02 - .05	ND	ND	ND
Dibenzo(A,E)pyrene	.02 - .05	ND	ND	ND
Dibenzo(A,H)pyrene	.02 - .05	ND	ND	ND
Dibenzo(A,I)pyrene	.02 - .05	ND	ND	ND
3-Methylcholanthene	.02 - .05	ND	ND	ND
1-Naphylamine	.02 - .05	ND	ND	ND
N-Nitrosodiethylamine	.02 - .05	ND	ND	ND
Pentachlorobenzene	.02 - .05	ND	ND	ND
2,6-Dichlorophenol	.02 - .05	ND	ND	ND
3,3'-Dimethylbenzidine	.02 - .05	ND	ND	ND
N-Nitrosopiperidine	.02 - .05	ND	ND	ND

ND means none detected.

Table 3C (Continued)

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
Resorcinol	.02 - .05	ND	ND	ND	ND
Benzenethiol	.04 - 0.1	ND	ND	ND	ND
Malononitrile	.04 - 0.1	ND	ND	ND	ND
N-Nitrosopyrrolidine	.04 - 0.1	ND	ND	ND	ND
Aramite	.04 - 0.1	ND	ND	ND	ND
7,12-Dimethylbenz(A)Anthracene	.02 - .05	ND	ND	ND	ND
Dibenzo(A,E)pyrene	.02 - .05	ND	ND	ND	ND
Dibenzo(A,H)pyrene	.02 - .05	ND	ND	ND	ND
Dibenzo(A,I)pyrene	.02 - .05	ND	ND	ND	ND
3-Methylcholanthene	.02 - .05	ND	ND	ND	ND
1-Naphylamine	.02 - .05	ND	ND	ND	ND
N-Nitrosodiethylamine	.02 - .05	ND	ND	ND	ND
Pentachlorobenzene	.02 - .05	ND	ND	ND	ND
2,6-Dichlorophenol	.02 - .05	ND	ND	ND	ND
3,3'-Dimethylbenzidine	.02 - .05	ND	ND	ND	ND
N-Nitrosopiperidine	.02 - .05	ND	ND	ND	ND

ND means none detected.

Table 3D

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) UG-2	B-4A	B-7
3,3'-Dimethyoxybenzidine	.04 - 0.1	ND	ND	ND
Parabenzoquinone	.02 - .05	ND	ND	ND
N,N-Dimethylphenethylamine	.02 - .05	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	.02 - .05	ND	ND	ND
1,4-Dinitrobenzene	.02 - .05	ND	ND	ND
Diphenylamine	.02 - .05	ND	ND	ND
4,4-Methylene-Bis(2-Chloroanline)	.04 - 0.1	ND	ND	ND
5-Nitro-o-Toluidine	.02 - .05	ND	ND	ND
2-Acetylaminofluorene	.02 - .05	ND	ND	ND
4-Aminobiphenyl	.02 - .05	ND	ND	ND
p-Dimethylaminoazobenzene	.02 - .05	ND	ND	ND
Methyl Metanesulfonate	0.1 - 0.3	ND	ND	ND
N-Nitrosodi-n-Butyl Amine	.02 - .05	ND	ND	ND
Phenacetin	.02 - .05	ND	ND	ND

ND means none detected.

Table 3D (Continued)

3/26/87 CFI/Mobile Groundwater Non Priority Pollutant
Base/Neutral Components

As Received Basis (Laboratory Reference 162)

Parameter	Detection Limit Estimates	Analytical Result in mg/L (ppm) B-19	B-30	B-36	B-37
3,3'-Dimethyoxybenzidine	.04 - 0.1	ND	ND	ND	ND
Parabenzoquinone	.02 - .05	ND	ND	ND	ND
N,N-Dimethylphenethylamine	.02 - .05	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	.02 - .05	ND	ND	ND	ND
,4-Dinitrobenzene	.02 - .05	ND	ND	ND	ND
ɔiphenylamine	.02 - .05	ND	ND	ND	ND
4,4-Methylene-Bis(2-Chloroanline)	.04 - 0.1	ND	ND	ND	ND
5-Nitro-o-Toluidine	.02 - .05	ND	ND	ND	ND
2-Acetylaminofluorene	.02 - .05	ND	ND	ND	ND
4-Aminobiphenyl	.02 - .05	ND	ND	ND	ND
p-Dimethylaminoazobenzene	.02 - .05	ND	ND	ND	ND
Methyl Metanesulfonate	0.1 - 0.3	ND	ND	ND	ND
N-Nitrosodi-n-Butyl Amine	.02 - .05	ND	ND	ND	ND
Phenacetin	.02 - .05	ND	ND	ND	ND

ND means none detected.

Table 4

3/26/87 CFI/Mobile Groundwater Metals and Inorganics Components

As Received Basis (Laboratory Reference 162)

Parameter	Analytical Result in mg/L (ppm)			
	Detection Limit Estimates	UG-2	B-4A	B-7
Cobalt	.03	ND	ND	ND
Vanadium	0.2	ND	ND	ND
Osmium	0.3	ND	ND	ND
Fluoride	0.1	ND	ND	ND

ND means none detected.

Table 4 (Continued)

3/26/87 CFI/Mobile Groundwater Metals and Inorganics Components

As Received Basis (Laboratory Reference 162)

Parameter	Analytical Result in mg/L (ppm)				
	Detection Limit Estimates	B-19	B-30	B-36	B-37
Cobalt	.03	ND	ND	ND	ND
Vanadium	0.2	ND	ND	ND	ND
Osmium	0.3	ND	ND	ND	ND
Fluoride	0.1	ND	ND	ND	ND

ND means none detected.

06-01-02-05-14
also: 06.07.08-06

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

MAR 12 1986

4WD-WC

SCANNED

Mr. Mike Foreman
Crown Zellerbach Corporation
P.O. Box 2219
Gulfport, Mississippi 39503

Dear Mr. Foreman:

Enclosed is a copy of the RCRA ground water monitoring evaluation report for the Crown Zellerbach Corporation, Mobile, Alabama. The ground water monitoring evaluation was performed by EPA's Environmental Services Division, and is currently being reviewed by the Residuals Management Branch.

Sincerely yours,

Alan Farmer

for Doyle T. Brittain, Chief
West Unit, WCS

COMPREHENSIVE GROUND WATER MONITORING EVALUATION
CROWN ZELLERBACH CORPORATION
MOBILE, ALABAMA
EPA I.D. NO. ALD057226904
ESD PROJECT NO. 86-003

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV
ENVIRONMENTAL SERVICES DIVISION
COLLEGE STATION ROAD
ATHENS, GEORGIA 30613

U.S. Environmental Protection Agency
Environmental Services Division
College Station Road
Athens, Georgia 30613

COMPREHENSIVE GROUND WATER MONITORING EVALUATION
CROWN ZELLERBACH CORPORATION
MOBILE, ALABAMA
EPA I.D. NO. ALD057226904
ESD PROJECT NO. 86-003

INTRODUCTION

Bruce Ferguson and Don Hunter, US-EPA, Region IV, Environmental Services Division (ESD), Hazardous Waste Section (HWS), conducted a comprehensive ground water monitoring evaluation (CME) at the Crown Zellerbach Corporation, Southern Timber and Wood Products Division facility, Mobile, Alabama (Figure 1) during October 9 and 10, 1985. This evaluation was conducted at the request of the US-EPA, Region IV, Residuals Management Branch. J. Michael Foreman, Environmental Coordinator, Crown Zellerbach and David Killingsworth, Alabama Department of Environmental Management (ADEM) assisted with sampling during the evaluation and received split samples for some analyses. Eddie Wolfe and Brad Gane, ADEM, also visited the site during the investigation.

The purpose of the evaluation was to determine if the facility was in compliance with ground water monitoring regulations and standards of 40 CFR Part 265, Subpart F.

BACKGROUND

The Crown Zellerbach Corporation operated a facility for the preservative treatment of wood products located in Mobile, Alabama. The facility has been inactive for the past two to three years and Crown Zellerbach would like to attain closure of it under RCRA guidelines and regulations. The RCRA regulated hazardous waste management area consisted of an aeration pond and two concrete lined vacuum ponds (Figure 2). Ground water downgradient from the ponds has been determined to contain hazardous compounds relating to the operations of this facility. Crown Zellerbach has installed approximately thirty wells for the purpose of determining the rate and extent of migration and the concentrations of these hazardous waste constituents in the ground water.

The facility is in assessment and in September 1985 installed six additional wells for assessment purposes. Since the facility has been closed for several years, complete files and records were not available for on site inspection. Preliminary geotechnic site work shows the underlying strata consists of organic clay fill, silty sand, silty clay, lower sand and marine clay.

SUMMARY

The facility upgradient wells are properly located and do not indicate any effects from the former wood preserving operations. Ground water downgradient from the RCRA regulated aeration pond and vacuum ponds has been grossly affected by leakage from these units.

From discussion with Mr. Foreman it was determined that the facility is meeting the intent and requirements of 40 CFR Part 265, Subpart F. The facility's final Ground Water Quality Assessment Plan was due to be submitted to EPA Atlanta by October 31, 1985.

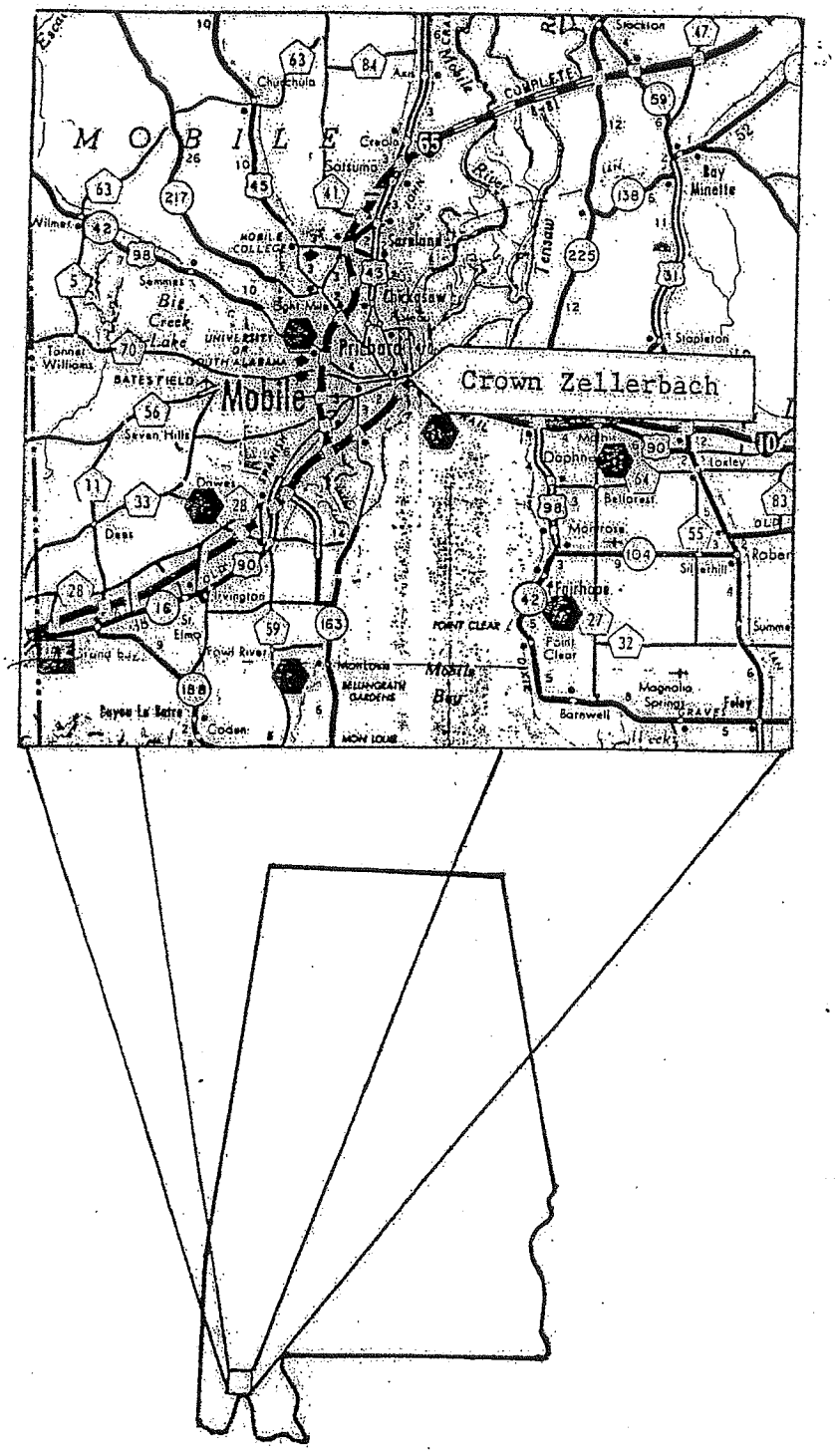


Figure 1
Facility Location Map
Crown Zellerbach
Mobile, Alabama

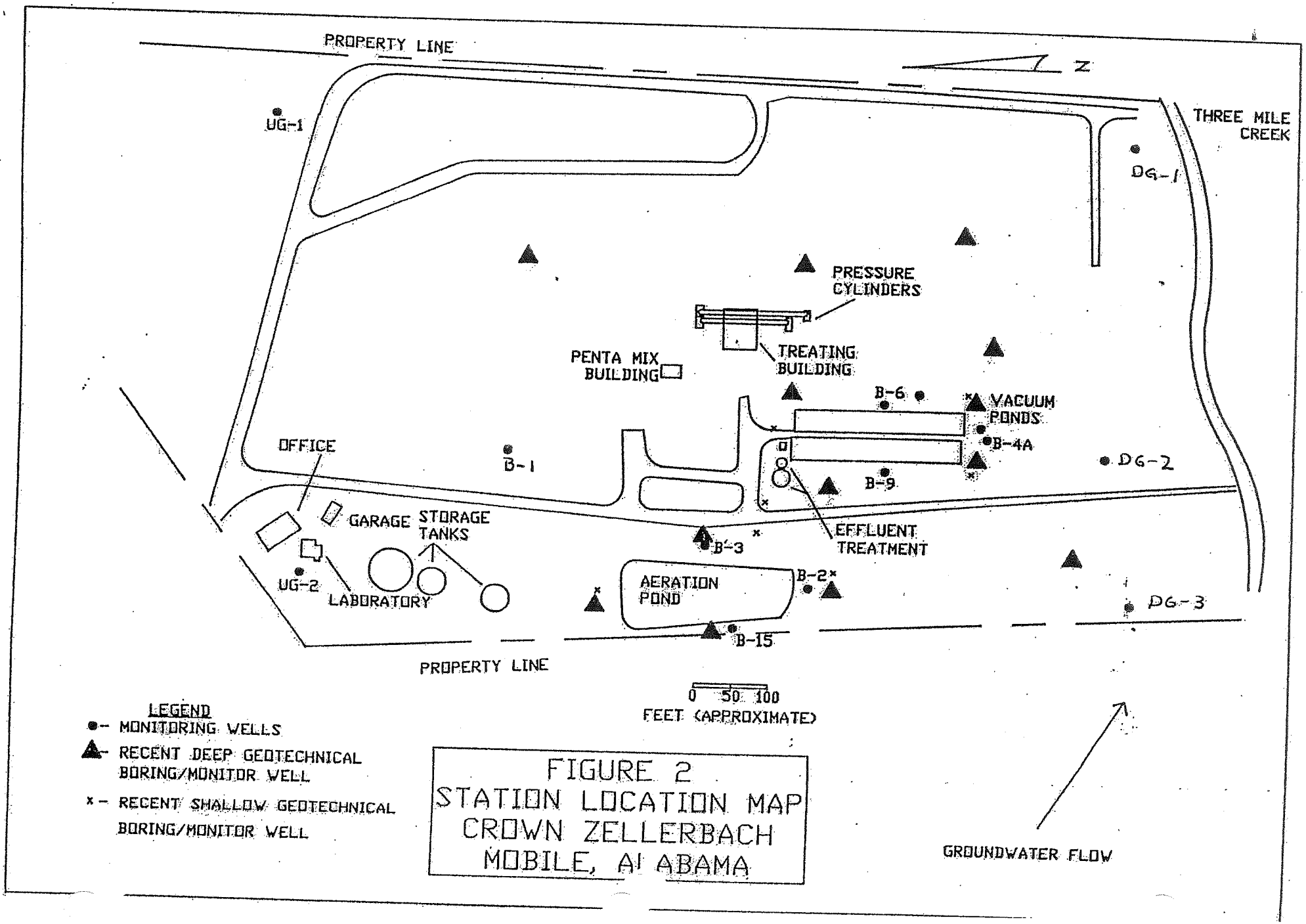


FIGURE 2
STATION LOCATION MAP
CROWN ZELLERBACH
MOBILE, ALABAMA

SAMPLING

Ground water samples were collected from two upgradient wells (UG 1&2) and six downgradient wells (B-3, B-15, B-2, B-6, B-4A, and B-9). These eight wells are the RCRA compliance monitoring wells which the facility designated for the RCRA regulated waste units. The location of these wells satisfies the requirements of a Notice of Violation issued by the Alabama Department of Environmental Management dated July 24, 1985. The first three downgradient wells were downgradient from the aeration pond, the second three were downgradient from the vacuum ponds. All wells were PVC cased to total depths between 21-37 feet. Well B-4A had a 10-foot screen and all others had 5-foot screens. Three well volumes were bailed from the two upgradient and four of the downgradient wells prior to collecting the samples. Downgradient wells B-15 and B-9 were heavily contaminated with a "heavier than water" oily liquid. There was only a small volume of water in these wells and after several bailers were pulled, only the oily liquid was present. Samples from these two wells were collected with the facility's dedicated PVC bailers. Conductivity and pH determinations were not made on these wells. Recovery of well B-15 was slow and samples had to be collected during two different days. A summary of the analytical data from all samples collected is given in Table 1. The raw data are included in the appendix.

With the exception mentioned above, all samples were collected and handled in accordance with the Water Surveillance Branch Standard Operating Procedures/ Quality Assurance Manual (Draft 1980). All samples were analyzed in accordance with the Analytical Support Branch Operations and Quality Control Manual, June 1985. STORET station locations and field data have been submitted for entry into the STORET system.

RESULTS

A review of the metals data showed the presence of eight metals in upgradient well 1. Concentrations of these metals ranged from 50 ug/l barium to 716 mg/l sodium. Eleven metals were detected in upgradient well 2 with concentrations ranging from 13 ug/l zinc to 56 mg/l sodium. From eight to eleven metals were detected in the downgradient wells sampled. Concentrations of these ranged from 13 ug/l chromium and zinc to 1,200 mg/l sodium. Barium and chromium were the only metals of the National Interim Primary Drinking Water Standards (NIPDWS) detected in the well samples and neither exceeded the maximum allowable level.

Phenols (4AAP) were detected in upgradient well 1 at an estimated concentration of 28 ug/l and upgradient well 2 at a concentration of 38 ug/l. The downgradient wells contained phenols at concentrations ranging from 260 ug/l in well B-4A to 44,000 ug/l in well B-15.

Presumptive evidence of caprolactam at an estimated concentration of 70 ug/l in upgradient well 1 was the only organic compound detected in either of the two upgradient wells.

Twenty-seven different organic compounds were identified and quantified in the samples collected from the six downgradient wells. The majority of these 27 compounds were polynuclear aromatic hydrocarbons (PAH) associated with the creosote process of wood preserving. Well B-15, downgradient from the aeration

pond, contained the greatest number and highest concentrations of these organic compounds. Concentrations ranged from 2,700 ug/l acenaphthylene to 380,00 ug/l naphthalene. Well B-4A, downgradient from the vacuum ponds, contained the least number and lowest concentrations of the PAH. Downgradient well B-9 was not sampled for extractable organic analyses. Several phenolic compounds and organic solvents were also identified and quantified in the downgradient well samples. Presumptive evidence, at estimated concentrations from .7 to 100,000 ug/l, for an additional 19-35 organic compounds was reported in the six downgradient well samples (Table 1).

Conductivity and pH measurements made during this investigation are shown in the following table.

Well	Station ID	pH (SU)	Conductivity (umhos/cm)
UG-1	CZ-1	4.6	380
UG-2	CZ-2	6.0	600
B-3	CZ-3	7.5	1,050
B-15	CZ-4	--	--
B-2	CZ-5	6.2	930
B-6	CZ-6	6.15	5,000
B-4A	CZ-7	6.3	3,400
B-9	CZ-8	--	--

LE 1

ANALYTICAL DATA SUMMARY
COMPREHENSIVE G.W. MONITORING EVALUATION
CROWN ZELLERBACH CORPORATION
MOBILE, ALABAMA

	CZ-1 UPGRADNT WELL 1 10/09/85 1105	CZ-2 UPGRADNT WELL 2 10/09/85 1000	CZ-3 DOWNGRAD WELL B-3 10/09/85 1220	CZ-4 DOWNGRAD WELLB-15 10/10/85 1100	CZ-5 DOWNGRAD WELL B-2 10/09/85 1520	CZ-6 DOWNGRAD WELL B-6 10/10/85 0845	CZ-7 DOWNGRAD WELLB-4A 10/10/85 0955	CZ-8 DOWNGRAD WELL B-9 10/10/85 1030
	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
INORGANIC ELEMENT/COMPOUND								
BARIUM	50	78	97	240	210	130	110	NA
COBALT	--	62	--	--	25	--	--	NA
CHROMIUM	--	--	--	--	--	--	13	NA
STRONTIUM	170	98	290	1900	270	1100	870	NA
TITANIUM	--	15	--	--	--	14	93	NA
VANADIUM	--	--	--	--	30	--	14	NA
ZINC	--	13	--	--	13	--	24	NA
MERCURY	--	--	--	NAI	--	NAI	NAI	NA
ALUMINUM	200	1000	750	2800	2700	1500	6600	NA
MANGANESE	680	190	340	1800	1100	760	490	NA
	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
CALCIUM	18	6.2	92	150	43	110	78	NA
MAGNESIUM	16	7.2	14	200	19	95	67	NA
IRON	12	1.7	5.3	6.3	22	5.4	7.4	NA
SODIUM	76	56	110	1200	120	870	510	NA
EXTRACTABLE ORGANIC COMPOUNDS								
	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
NAPHTHALENE	--	--	18000	380000	7600	3500	4.6J	NA
ACENAPHTHYLENE	--	--	--	2700	11J	13J	--	NA
ACENAPHTHENE	--	--	4600	140000	420	600	11	NA
FLUORENE	--	--	4400	140000	190	320	--	NA
PHENANTHRENE	--	--	10000	340000	210	510	--	NA
ANTHRACENE	--	--	1300J	45000	20J	50	--	NA
FLUORANTHENE	--	--	5700	190000	38J	140	--	NA
PYRENE	--	--	4000	140000	25J	93	--	NA
BIS(2-ETHYLHEXYL) PHTHALATE	--	--	--	--	--	--	280	NA
BENZO(A)ANTHRACENE	--	--	1400J	50000	5.2J	21J	--	NA
CHRYSENE	--	--	1200J	42000	--	18J	--	NA
BENZO(B AND/OR K)FLUORANTHENE	--	--	1100J	38000	--	15J	--	NA
BENZO-A-PYRENE	--	--	450J	10000	--	6.1J	--	NA
INDENO (1,2,3-CD) PYRENE	--	--	--	10000	--	--	--	NA
BENZO(GHI)PERYLENE	--	--	--	6100	--	--	--	NA
2-NITROPHENOL	--	--	--	--	--	--	--	NA
PHENOL	--	--	--	--	--	--	2.1J	NA

TABLE 1
ANALYTICAL DATA SUMMARY
COMPREHENSIVE G.W. MONITORING EVALUATION
CROWN ZELLERBACH CORPORATION
MOBILE, ALABAMA

	CZ-1 UPGRADNT WELL 1 10/09/85 1105	CZ-2 UPGRADNT WELL 2 10/09/85 1000	CZ-3 DOWNGRAD WELL B-3 10/09/85 1220	CZ-4 DOWNGRAD WELLB-15 10/10/85 1100	CZ-5 DOWNGRAD WELL B-2 10/09/85 1520	CZ-6 DOWNGRAD WELL B-6 10/10/85 0845	CZ-7 DOWNGRAD WELLB-4A 10/10/85 0955	CZ-8 DOWNGRAD WELL B-9 10/10/85 1030
	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
2,4-DIMETHYLPHENOL	--	--	6100	8400	3200	1300	19	NA
PENTACHLOROPHENOL	--	--	--	--	--	140	--	NA
C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(2 ISOME	--	--	3000JN	--	--	--	--	--
C3 ALKYLPHENOL	--	--	800JN	--	--	--	--	--
METHYLDIBENZOFURAN	--	--	800JN	--	--	--	--	--
METHYLFLUORANTHENE(2 ISOMERS)	--	--	2000JN	--	--	--	--	--
C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(5 ISOME	--	--	--	--	3000JN	--	--	--
C4 ALKYLPHENOL(6 ISOMERS)	--	--	--	--	1000JN	--	--	--
DIHYDROINDENONE	--	--	--	--	100JN	--	--	--
DIHYDROINDOLONE(2 ISOMERS)	--	--	--	--	200JN	--	--	--
NAPHTHALENOL	--	--	--	--	700JN	--	--	--
METHYLNAPHTHALENOL(2 ISOMERS)	--	--	--	--	300JN	--	--	--
ETHOXYBIPHENYL(2 ISOMERS)	--	--	--	--	200JN	--	--	--
DIHYDROXYANTHRACENE	--	--	--	--	50JN	--	--	--
QUINOLINONE	--	--	1000JN	--	200JN	--	--	--
METHYLQUINOLINONE(3 ISOMERS)	--	--	--	--	200JN	--	--	--
QUINOLINOL	--	--	--	--	100JN	--	--	--
C3 ALKYNYLBENZENE	--	--	--	--	200JN	100JN	--	--
TETRAHYDRONAPHTHALENE	--	--	--	--	--	50JN	--	--
METHYLBENZONITRILE	--	--	--	--	50JN	20JN	--	--
C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(4 ISOME	--	--	--	--	--	400JN	--	--
C3 ALKYLPHENOL(9 ISOMERS)	--	--	--	--	3000JN	500JN	--	--
C4 ALKYLPHENOL(4 ISOMERS)	--	--	--	--	--	100JN	--	--
TRIMETHYLCYCLOHEXENEMETHANOL	--	--	--	--	--	80JN	--	--
BENZOTHIOPHENE	--	--	--	--	400JN	80JN	--	--
METHYLQUINOLINE	--	--	--	--	--	100JN	--	--
NAPHTHALENOL(2 ISOMERS)	--	--	--	--	--	100JN	--	--
C2 ALKYLNAPHTHALENE(3 ISOMERS)	--	--	--	--	200JN	100JN	--	--
DIHYDROINDOLONE	--	--	200JN	--	--	50JN	--	--
TETRACHLOROPHENOL	--	--	--	--	--	100JN	--	--
NAPHTHALENECARBONITRILE	--	--	--	--	100JN	50JN	--	--
METHYLNAPHTHALENOL	--	--	--	--	--	20JN	--	--
INDENOPYRIDINE	--	--	--	--	--	20JN	--	--
BIPHENYLOL	--	--	--	--	--	20JN	--	--
DIBENZOFURANOL	--	--	--	--	200JN	20JN	--	--
METHYLQUINOLINOL	--	--	--	--	--	20JN	--	--
METHYLQUINOLINONE	--	--	--	--	--	20JN	--	--
METHYLPHENANTHRENE	--	--	--	--	--	20JN	--	--
FLUORENAMINE	--	--	--	--	100JN	20JN	--	--
ACRIDINONE	--	--	--	--	100JN	50JN	--	--
C3 ALKYLBENZENE(2 ISOMERS)	--	--	--	--	--	--	20JN	--
C5 ALKYLBENZENE(5 ISOMERS)	--	--	--	--	400JN	--	100JN	--
C6 ALKYLBENZENE(4 ISOMERS)	--	--	--	--	200JN	--	30JN	--

LE 1
ANALYT DATA SUMMARY
COMPREHENSIVE ... MONITORING EVALUATION
CROWN ZELLERBACH CORPORATION
MOBILE, ALABAMA

	CZ-1 UPGRADNT WELL 1 10/09/85 1105	CZ-2 UPGRADNT WELL 2 10/09/85 1000	CZ-3 DOWNGRAD WELL B-3 10/09/85 1220	CZ-4 DOWNGRAD WELLB-15 10/10/85 1100	CZ-5 DOWNGRAD WELL B-2 10/09/85 1520	CZ-6 DOWNGRAD WELL B-6 10/10/85 0845	CZ-7 DOWNGRAD WELLB-4A 10/10/85 0955	CZ-8 DOWNGRAD WELL B-9 10/10/85 1030
	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
METHYLSTYRENE	--	--	--	--	200JN	60JN	200JN	--
C2 ALKYLSTYRENE	--	--	--	--	50JN	--	20JN	--
C3 ALKYLCYCLOPENTENONE	--	--	--	--	--	--	10JN	--
C2 ALKYLPHENYLTRIAZENE	--	--	--	--	--	--	20JN	--
PHENYLPROPENAL	--	--	--	--	50JN	20JN	50JN	--
C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(3 ISOME	--	--	--	--	--	--	100JN	--
C3 ALKYLPHENOL(3 ISOMERS)	--	--	--	--	--	--	100JN	--
C4 ALKYLPHENOL(7 ISOMERS)	--	--	--	--	--	--	200JN	--
1-METHYLNAPHTHALENE	--	--	1000JN	--	800JN	300JN	30JN	--
DIHYDROINDENOL	--	--	200JN	--	500JN	100JN	70JN	--
NAPHTHALENECARBOXYLIC ACID	--	--	--	--	--	--	50JN	--
NAPHTHALENEDICARBOXYLIC ACID	--	--	--	--	--	--	100JN	--
HEXADECANOIC ACID	--	--	--	--	--	--	10JN	--
HEXANEDIOIC ACID,DIOCTYL ESTER	--	--	--	--	--	--	50JN	--
4 UNIDENTIFIED COMPOUNDS	--	--	--	--	--	--	100JN	--
1-METHYNAPHTHALENE	--	--	--	40000JN	--	--	--	--
C2 ALKYLNAPHTHALENE	--	--	5200JN	5000JN	--	--	--	--
BIPHENYL	--	--	700JN	20000JN	100JN	100JN	--	--
METHYLBIPHENYL(2 ISOMERS)	--	--	--	40000JN	--	20JN	--	--
METHYLDIBENZOFURAN(2 ISOMERS)	--	--	--	50000JN	--	40JN	--	--
DIHYDROANTHRACENE	--	--	400JN	20000JN	--	20JN	--	--
METHYLFLUORENE	--	--	200JN	20000JN	--	--	--	--
DIBENZOTHIOPHENE	--	--	1000JN	50000JN	50JN	50JN	--	--
CARBAZOLE	--	--	1000JN	30000JN	500JN	100JN	--	--
PHENYLNAPHTHALENE	--	--	500JN	50000JN	--	--	--	--
METHYLPHENANTHRENE(2 ISOMERS)	--	--	3000JN	80000JN	--	--	--	--
CYCLOPENTAPHENANTHRENE	--	--	2000JN	80000JN	--	50JN	--	--
BENZONAPHTHOFURAN	--	--	--	100000JN	--	--	--	--
METHYLFLUORANTHENE(3 ISOMERS)	--	--	--	100000JN	--	--	--	--
TRIPHENYLENE	--	--	--	100000JN	--	--	--	--
BENZO(GHI)FLUORANTHENE	--	--	--	100000JN	--	--	--	--
METHYLBENZANTHRACENE	--	--	--	100000JN	--	--	--	--
2-METHYLPHENOL	--	--	1100	870J	300	11J	--	--
4-METHYLPHENOL	--	--	2200	590J	580	9.6J	--	--
DIBENZOFURAN	--	--	3200	97000	190	370	--	--
2-METHYL NAPHTHALENE	--	--	4400	120000	610	980	21	--
CAPROLACTAM	70JN	--	--	--	--	--	40JN	--
C3 ALKYLBENZENESULFONAMIDE	--	--	--	--	--	--	--	--
C5 ALKYLBENZENESULFONAMIDE	--	--	--	--	--	--	--	--
PETROLEUM PRODUCT	--	--	--	--	--	--	--	--
PURGEABLE ORGANIC COMPOUNDS								
CHLOROMETHANE	--	--	0.7J	--	--	--	0.9J	--

TABLE 1
ANALYTICAL DATA SUMMARY
COMPREHENSIVE G.W. MONITORING EVALUATION
CROWN ZELLERBACH CORPORATION
MOBILE, ALABAMA

	CZ-1 UPGRADNT WELL 1 10/09/85 1105	CZ-2 UPGRADNT WELL 2 10/09/85 1000	CZ-3 DOWNGRAD WELL B-3 10/09/85 1220	CZ-4 DOWNGRAD WELLB-15 10/09/85 1545	CZ-5 DOWNGRAD WELL B-2 10/09/85 1520	CZ-6 DOWNGRAD WELL B-6 10/10/85 0845	CZ-7 DOWNGRAD WELLB-4A 10/10/85 0955	CZ-8 DOWNGRAD WELL B-9 10/10/85 1030
	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
BENZENE	--	--	40	39	49	91	140	26
TOLUENE	--	--	79	64	83	130	2.1J	60
ETHYL BENZENE	--	--	36	28	35	290	27	28
TOTAL XYLENES	--	--	120	110	120	230	45	120
METHYLFURAN	--	--	4JN	5JN	--	--	--	--
BENZOFURAN	--	--	100JN	90JN	80JN	30JN	--	100JN
UNIDENTIFIED TERPENE	--	--	--	--	--	--	--	20J
ACETONE	--	--	28J	47J	--	26J	35J	55J
METHYL ETHYL KETONE	--	--	45J	--	--	--	--	--
CARBON DISULFIDE	--	--	--	6.8J	--	4.4J	2J	21
STYRENE	--	--	3J	2J	--	40	--	14J
CONVENTIONAL PARAMETERS								
PHENOL (4AAP)	28J	38	9400	44000	4400	1700	260	6200

*****SEE ATTACHED LIST OF FOOTNOTES*****

FOOTNOTES FOR DATA SUMMARY TABLES

-- The parameter was analyzed for but not detected. Detection limits are specified on the analytical data sheets.

NA Analysis was not conducted for this parameter.

NAI Analysis for this parameter was attempted but could not be completed because of interference.

J Estimated value.

K Actual value is known to be less than the value given.

L Actual value is known to be greater than the value given.

N Presumptive evidence of the presence of the material.

A Average value based on two or more observations.

C Confirmed on GC/MS.

X Data is invalid based on QC data.

1 When no value is reported, see chlordane constituents.

2 Constituent or metabolite of technical chlordane.

Remark - See analytical data sheet for additional information.

Complete - Indicates that the analysis has been completed; see appropriate data summary sheet or analytical data sheet for additional information.

APPENDIX

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO,: 86C 9937 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-RB
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/11/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE,/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
20U	BENZOIC ACID
10U	2-METHYLPHENOL
10U	4-METHYLPHENOL
10U	2,4,5-TRICHLOROPHENOL
10U	ANILINE
10U	BENZYL ALCOHOL
20U	4-CHLOROANILINE
10U	DIBENZOFURAN
10U	2-METHYL NAPHTHALENE
10U	2-NITROANILINE
10U	3-NITROANILINE
10U	4-NITROANILINE
60JN	CAPROLACTAM
10JN	C3 ALKYLBENZENESULFONAMIDE
10JN	C5 ALKYLBENZENESULFONAMIDE
N	PETROLEUM PRODUCT

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9937 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL
STATION I.D.: CZ-RB
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/11/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-M AL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
10U	UG/L	1,3-DICHLOROBENZENE
10U	UG/L	1,4-DICHLOROBENZENE
10U	UG/L	1,2-DICHLOROBENZENE
10U	UG/L	BIS(2-CHLOROETHYL) ETHER
10U	UG/L	HEXACHLOROETHANE
10U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
10U	UG/L	N-NITROSODI-N-PROPYLAMINE
10U	UG/L	NITROBENZENE
10U	UG/L	HEXACHLOROBUTADIENE
10U	UG/L	1,2,4-TRICHLOROBENZENE
10U	UG/L	NAPHTHALENE
10U	UG/L	BIS(2-CHLOROETHOXY) METHANE
10U	UG/L	ISOPHORONE
10U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	UG/L	2-CHLORONAPHTHALENE
10U	UG/L	ACENAPHTHYLENE
10U	UG/L	ACENAPHTHENE
10U	UG/L	DIMETHYL PHTHALATE
10U	UG/L	2,4-DINITROTOLUENE
10U	UG/L	2,6-DINITROTOLUENE
10U	UG/L	4-CHLOROPHENYL PHENYL ETHER
10U	UG/L	FLUORENE
10U	UG/L	DIETHYL PHTHALATE
10U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	UG/L	HEXACHLOROBENZENE (HCB)
10U	UG/L	4-BROMOPHENYL PHENYL ETHER
10U	UG/L	PHENANTHRENE
10U	UG/L	ANTHRACENE
10U	UG/L	DI-N-BUTYLPHTHALATE
10U	UG/L	FLUORANTHENE
10U	UG/L	PYRENE
10U	UG/L	BENZYL BUTYL PHTHALATE
10U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
10U	UG/L	BENZO(A)ANTHRACENE
10U	UG/L	CHRYSENE
10U	UG/L	3,3'-DICHLOROBENZIDINE
10U	UG/L	DI-N-OCTYLPHTHALATE
10U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
10U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
10U	UG/L	BENZO-A-PYRENE
10U	UG/L	INDENO (1,2,3-CD) PYRENE
10U	UG/L	DIBENZO(A,H)ANTHRACENE
10U	UG/L	BENZO(GHI)PERYLENE
1.4J	UG/L	2-CHLOROPHENOL
10U	UG/L	2-NITROPHENOL
10U	UG/L	PHENOL
10U	UG/L	2,4-DIMETHYLPHENOL
100	UG/L	2,4-DICHLOROPHENOL
100	UG/L	2,4,6-TRICHLOROPHENOL
200	UG/L	4-CHLORO-3-METHYLPHENOL
200	UG/L	2,4-DINITROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9935 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-TB
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1110
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCO

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
100U	ACETONE
100U	METHYL ETHYL KETONE
20U	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
20U	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9934 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-8
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1030
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
55J	ACETONE
100U	METHYL ETHYL KETONE
21	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
14J	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE
100JN	BENZOFURAN
20J	UNIDENTIFIED TERPENE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-M L WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9934 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-8
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1030
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
5U	UG/L	CHLOROMETHANE
5U	UG/L	BROMOMETHANE
5U	UG/L	VINYL CHLORIDE
5U	UG/L	CHLOROETHANE
5U	UG/L	METHYLENE CHLORIDE
5U	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	UG/L	1,1-DICHLOROETHANE
5U	UG/L	TRANS-1,2-DICHLOROETHENE
5U	UG/L	CHLOROFORM
5U	UG/L	1,2-DICHLOROETHANE
5U	UG/L	1,1,1-TRICHLOROETHANE
5U	UG/L	CARBON TETRACHLORIDE
5U	UG/L	BROMODICHLOROMETHANE
5U	UG/L	1,2-DICHLOROPROPANE
5U	UG/L	TRANS-1,3-DICHLOROPROPENE
5U	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
26	UG/L	BENZENE
5U	UG/L	DIBROMOCHLOROMETHANE
5U	UG/L	1,1,2-TRICHLOROETHANE
5U	UG/L	CIS-1,3-DICHLOROPROPENE
5U	UG/L	2-CHLOROETHYLVINYL ETHER
5U	UG/L	BROMOFORM
5U	UG/L	1,1,2,2-TETRACHLOROETHANE
5U	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
60	UG/L	TOLUENE
5U	UG/L	CHLOROBENZENE
28	UG/L	ETHYL BENZENE
120	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
6200	UG/L	PHENOL (4AAP)	32730

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9934 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROSS ZELLERBACH
CITY: MOBILE STATE: AL
STATION I.D.: CZ-8
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1030
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP DATA VERIFIED BY: RLQ

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9935 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-TB
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1110
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
50	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
50	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
50	UG/L	ETHYL BENZENE
50	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9933 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-7
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0955
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1426 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
110	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
20U	UG/L	COBALT
13	UG/L	CHROMIUM
10U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
30U	UG/L	ANTIMONY
50U	UG/L	SELENIUM
100U	UG/L	TIN
870	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
93	UG/L	TITANIUM
NA	UG/L	THALLIUM
14	UG/L	VANADIUM
10U	UG/L	YTTRIUM
24	UG/L	ZINC
NA	UG/L	ZIRCONIUM
NAI	UG/L	MERCURY
6600	UG/L	ALUMINUM
490	UG/L	MANGANESE
78	MG/L	CALCIUM
67	MG/L	MAGNESIUM
7.4	MG/L	IRON
510	MG/L	SODIUM
NA	MG/L	POTASSIUM

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9933 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-7
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0955
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: MFP DATA VERIFIED BY: RLQ

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
260	UG/L	PHENOL (4AAP)	32730

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9933 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-7
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0955
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
35J	ACETONE
100U	METHYL ETHYL KETONE
2J	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
20U	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTU VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MAT , WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9933 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-7
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0955
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
0.9J	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
140	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
2.1J	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
27	UG/L	ETHYL BENZENE
45	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9933 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-7
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0955
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
20U	BENZOIC ACID
10U	2-METHYLPHENOL
10U	4-METHYLPHENOL
10U	2,4,5-TRICHLOROPHENOL
10U	ANILINE
10U	BENZYL ALCOHOL
20U	4-CHLOROANILINE
10U	DIBENZOFURAN
21	2-METHYL NAPHTHALENE
10U	2-NITROANILINE
10U	3-NITROANILINE
10U	4-NITROANILINE
20JN	C3 ALKYLBENZENE(2 ISOMERS)
100JN	C5 ALKYLBENZENE(5 ISOMERS)
30JN	C6 ALKYLBENZENE(4 ISOMERS)
200JN	METHYLSTYRENE
20JN	C2 ALKYLSTYRENE
10JN	C3 ALKYLCYCLOPENTENONE
20JN	C2 ALKYLPHENYLTRIAZENE
50JN	PHENYLPROPENAL
100JN	C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(3 ISOMERS)
100JN	C3 ALKYLPHENOL(3 ISOMERS)
200JN	C4 ALKYLPHENOL(7 ISOMERS)
40JN	CAPROLACTAM
30JN	1-METHYLNAPHTHALENE
70JN	DIHYDROINDENOL
50JN	NAPHTHALENECARBOXYLIC ACID
100JN	NAPHTHALENEDICARBOXYLIC ACID
10JN	HEXADECANOIC ACID
50JN	HEXANEDIOIC ACID,DIOCTYL ESTER
100JN	4 UNIDENTIFIED COMPOUNDS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-AC VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-P AL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9933 SAMPLE TYPE: MONWL

PROJECT NO.: 8b-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-7
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0955
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
10U	UG/L	1,3-DICHLOROBENZENE
10U	UG/L	1,4-DICHLOROBENZENE
10U	UG/L	1,2-DICHLOROBENZENE
10U	UG/L	BIS(2-CHLOROETHYL) ETHER
10U	UG/L	HEXACHLOROETHANE
10U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
10U	UG/L	N-NITROSODI-N-PROPYLAMINE
10U	UG/L	NITROBENZENE
10U	UG/L	HEXACHLOROBUTADIENE
10U	UG/L	1,2,4-TRICHLOROBENZENE
4.6J	UG/L	NAPHTHALENE
10U	UG/L	BIS(2-CHLOROETHOXY) METHANE
10U	UG/L	ISOPHORONE
10U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	UG/L	2-CHLORONAPHTHALENE
10U	UG/L	ACENAPHTHYLENE
11	UG/L	ACENAPHTHENE
10U	UG/L	DIMETHYL PHTHALATE
10U	UG/L	2,4-DINITROTOLUENE
10U	UG/L	2,6-DINITROTOLUENE
10U	UG/L	4-CHLOROPHENYL PHENYL ETHER
10U	UG/L	FLUORENE
10U	UG/L	DIETHYL PHTHALATE
10U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	UG/L	HEXACHLOROBENZENE (HCB)
10U	UG/L	4-BROMOPHENYL PHENYL ETHER
10U	UG/L	PHENANTHRENE
10U	UG/L	ANTHRACENE
10U	UG/L	DI-N-BUTYLPHTHALATE
10U	UG/L	FLUORANTHENE
10U	UG/L	PYRENE
10U	UG/L	BENZYL BUTYL PHTHALATE
280	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
10U	UG/L	BENZO(A)ANTHRACENE
10U	UG/L	CHRYSENE
10U	UG/L	3,3'-DICHLOROBENZIDINE
10U	UG/L	DI-N-OCTYLPHTHALATE
10U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
10U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
10U	UG/L	BENZO-A-PYRENE
10U	UG/L	INDENO (1,2,3-CD) PYRENE
10U	UG/L	DIBENZO(A,H)ANTHRACENE
10U	UG/L	BENZO(GHI)PERYLENE
10U	UG/L	2-CHLOROPHENOL
10U	UG/L	2-NITROPHENOL
2.1J	UG/L	PHENOL
19	UG/L	2,4-DIMETHYLPHENOL
10U	UG/L	2,4-DICHLOROPHENOL
10U	UG/L	2,4,6-TRICHLOROPHENOL
20U	UG/L	4-CHLORO-3-METHYLPHENOL
20U	UG/L	2,4-DINITROPHENOL
20U	UG/L	2-METHYL-4,6-DINITROPHENOL
20U	UG/L	PENTACHLOROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9932 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-6
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0845
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
130	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
20U	UG/L	COBALT
10U	UG/L	CHROMIUM
10U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
30U	UG/L	ANTIMONY
40U	UG/L	SELENIUM
100U	UG/L	TIN
1100	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
14	UG/L	TITANIUM
NA	UG/L	THALLIUM
10U	UG/L	VANADIUM
10U	UG/L	YTTRIUM
10U	UG/L	ZINC
NA	UG/L	ZIRCONIUM
NAI	UG/L	MERCURY
1500	UG/L	ALUMINUM
760	UG/L	MANGANESE
110	MG/L	CALCIUM
95	MG/L	MAGNESIUM
5.4	MG/L	IRON
870	MG/L	SODIUM
NA	MG/L	POTASSIUM

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACT VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MA L WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
1700	UG/L	PHENOL (4AAP)	32730

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9932 SAMPLE TYPE: NONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-6
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0845
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: RLQ

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9932 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: GROWN ZELGERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-6
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0845
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
RECEIVED FROM: B. FERGUSON
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
26J	ACETONE
100U	METHYL ETHYL KETONE
4.4J	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
40	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE
80JN	BENZOFURAN

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTU[illegible] VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACT VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MA[illegible] L HAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REC IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9932 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-6
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0845
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
5U	UG/L	CHLOROMETHANE
5U	UG/L	BROMOMETHANE
5U	UG/L	VINYL CHLORIDE
5U	UG/L	CHLOROETHANE
5U	UG/L	METHYLENE CHLORIDE
5U	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	UG/L	1,1-DICHLOROETHANE
5U	UG/L	TRANS-1,2-DICHLOROETHENE
5U	UG/L	CHLOROFORM
5U	UG/L	1,2-DICHLOROETHANE
5U	UG/L	1,1,1-TRICHLOROETHANE
5U	UG/L	CARBON TETRACHLORIDE
5U	UG/L	BROMODICHLOROMETHANE
5U	UG/L	1,2-DICHLOROPROPANE
5U	UG/L	TRANS-1,3-DICHLOROPROPENE
5U	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
91	UG/L	BENZENE *
5U	UG/L	DIBROMOCHLOROMETHANE
5U	UG/L	1,1,2-TRICHLOROETHANE
5U	UG/L	CIS-1,3-DICHLOROPROPENE
5U	UG/L	2-CHLOROETHYLVINYL ETHER
5U	UG/L	BROMOFORM
5U	UG/L	1,1,2,2-TETRACHLOROETHANE
5U	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
130	UG/L	TOLUENE *
5U	UG/L	CHLOROBENZENE
290	UG/L	ETHYL BENZENE *
230	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REC IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9932 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL
STATION I.D.: CZ-6
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0845
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM DETECTION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
100U	BENZOIC ACID
11J	2-METHYLPHENOL
9.6J	4-METHYLPHENOL
50U	2,4,5-TRICHLOROPHENOL
50U	ANILINE
50U	BENZYL ALCOHOL
100U	4-CHLOROANILINE
370	DIBENZOFURAN
980	2-METHYL NAPHTHALENE
50U	2-NITROANILINE
50U	3-NITROANILINE
50U	4-NITROANILINE
30JN	BENZOFURAN
60JN	METHYLSTYRENE
100JN	C3 ALKYNYLBENZENE
50JN	TETRAHYDRONAPHTHALENE
20JN	METHYLBENZONITRILE
20JN	PHENYLPROPENAL
400JN	C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(4 ISOMERS)
500JN	C3 ALKYLPHENOL(9 ISOMERS)
100JN	C4 ALKYLPHENOL(4 ISOMERS)
80JN	TRIMETHYLCYCLOHEXENEMETHANOL
80JN	BENZOTHIOPHENE
100JN	DIHYDROINDENOL
100JN	METHYLQUINOLINE
100JN	NAPHTHALENOL(2 ISOMERS)
300JN	1-METHYLNAPHTHALENE
100JN	C2 ALKYLNAPHTHALENE(3 ISOMERS)
100JN	BIPHENYL
50JN	DIHYDROINDOLONE
100JN	TETRACHLOROPHENOL
50JN	NAPHTHALENECARBONITRILE
20JN	METHYLNAPHTHALENOL
20JN	METHYLBIPHENYL(2 ISOMERS)
40JN	METHYLDIBENZOFURAN(2 ISOMERS)
20JN	INDENOPYRIDINE
20JN	DIHYDROANTHRACENE
20JN	BIPHENYLOL
50JN	DIBENZOTHIOPHENE
20JN	DIBENZOFURANOL
20JN	METHYLQUINOLINOL
20JN	METHYLQUINOLINONE
100JN	CARBAZOLE
20JN	METHYLPHENANTHRENE
20JN	FLUORENAMINE
50JN	CYCLOPENTAPHENANTHRENE
50JN	ACRIDINONE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9932 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-6
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 0845
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
50U	UG/L	1,3-DICHLOROBENZENE
50U	UG/L	1,4-DICHLOROBENZENE
50U	UG/L	1,2-DICHLOROBENZENE
50U	UG/L	BIS(2-CHLOROETHYL) ETHER
50U	UG/L	HEXACHLOROETHANE
50U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
50U	UG/L	N-NITROSODI-N-PROPYLAMINE
50U	UG/L	NITROBENZENE
50U	UG/L	HEXACHLOROBUTADIENE
50U	UG/L	1,2,4-TRICHLOROBENZENE
3500	UG/L	NAPHTHALENE
50U	UG/L	BIS(2-CHLOROETHOXY) METHANE
50U	UG/L	ISOPHORONE
50U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
50U	UG/L	2-CHLORONAPHTHALENE
13J	UG/L	ACENAPHTHYLENE
600	UG/L	ACENAPHTHENE
50U	UG/L	DIMETHYL PHTHALATE
50U	UG/L	2,4-DINITROTOLUENE
50U	UG/L	2,6-DINITROTOLUENE
50U	UG/L	4-CHLOROPHENYL PHENYL ETHER
320	UG/L	FLUORENE
50U	UG/L	DIETHYL PHTHALATE
50U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
50U	UG/L	HEXACHLOROBENZENE (HCB)
50U	UG/L	4-BROMOPHENYL PHENYL ETHER
510	UG/L	PHENANTHRENE
50	UG/L	ANTHRACENE
50U	UG/L	DI-N-BUTYLPHTHALATE
140	UG/L	FLUORANTHENE
93	UG/L	PYRENE
50U	UG/L	BENZYL BUTYL PHTHALATE
50U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
21J	UG/L	BENZO(A)ANTHRACENE
18J	UG/L	CHRYSENE
50U	UG/L	3,3'-DICHLOROBENZIDINE
50U	UG/L	DI-N-OCTYLPHTHALATE
15J	UG/L	BENZO(B AND/OR K)FLUORANTHENE
--	UG/L	BENZO(B AND/OR K)FLUORANTHENE
6.1J	UG/L	BENZO-A-PYRENE
50U	UG/L	INDENO (1,2,3-CD) PYRENE
50U	UG/L	DIBENZO(A,H)ANTHRACENE
50U	UG/L	BENZO(GHI)PERYLENE
50U	UG/L	2-CHLOROPHENOL
50U	UG/L	2-NITROPHENOL
50U	UG/L	PHENOL
1300	UG/L	2,4-DIMETHYLPHENOL
500	UG/L	2,4-DICHLOROPHENOL
500	UG/L	2,4,6-TRICHLOROPHENOL
1000	UG/L	4-CHLORO-3-METHYLPHENOL
1000	UG/L	2,4-DINITROPHENOL
1000	UG/L	2-METHYL-4,6-DINITROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
210	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
25	UG/L	COBALT
10U	UG/L	CHROMIUM
10U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
30U	UG/L	ANTIMONY
40U	UG/L	SELENIUM
100U	UG/L	TIN
270	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
10U	UG/L	TITANIUM
NA	UG/L	THALLIUM
30	UG/L	VANADIUM
10U	UG/L	YTTRIUM
13	UG/L	ZINC
NA	UG/L	ZIRCONIUM
0.2U	UG/L	MERCURY
2700	UG/L	ALUMINUM
1100	UG/L	MANGANESE
43	MG/L	CALCIUM
19	MG/L	MAGNESIUM
22	MG/L	IRON
120	MG/L	SODIUM
NA	MG/L	POTASSIUM

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATEF
*K-AC VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-M AL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS
TH IMATED MINIMUM CONCENTRATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
4400	UG/L	PHENOL (4AAP)	32730

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: RLG

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL
STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
100U	ACETONE
100U	METHYL ETHYL KETONE
20U	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
20U	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE
100JN	BENZOFURAN

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERI
*K-ACTU VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MT L WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
49	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
83	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
35	UG/L	ETHYL BENZENE
120	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
1000U	BENZOIC ACID
300	2-METHYLPHENOL
580	4-METHYLPHENOL
500U	2,4,5-TRICHLOROPHENOL
500U	ANILINE
500U	BENZYL ALCOHOL
1000U	4-CHLOROANILINE
190	DIBENZOFURAN
610	2-METHYL NAPHTHALENE
1000U	2-NITROANILINE
1000U	3-NITROANILINE
1000U	4-NITROANILINE
400JN	C5 ALKYLBENZENE(5 ISOMERS)
200JN	C6 ALKYLBENZENE(4 ISOMERS)
80JN	BENZOFURAN
200JN	METHYLSTYRENE
50JN	C2 ALKYLSTYRENE
200JN	C3 ALKYNYLBENZENE
50JN	METHYLBENZONITRILE
50JN	PHENYLPROPENAL
3000JN	C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(5 ISOMERS)
3000JN	C3 ALKYLPHENOL(9 ISOMERS)
1000JN	C4 ALKYLPHENOL(6 ISOMERS)
400JN	BENZOTHIOPHENE
500JN	DIHYDROINDENOL
100JN	DIHYDROINDENONE
800JN	1-METHYLNAPHTHALENE
200JN	C2 ALKYLNAPHTHALENE(3 ISOMERS)
100JN	BIPHENYL
200JN	DIHYDROINDOLONE(2 ISOMERS)
100JN	NAPHTHALENECARBONITRILE
700JN	NAPHTHALENOL
300JN	METHYLNAPHTHALENOL(2 ISOMERS)
200JN	ETHOXYBIPHENYL(2 ISOMERS)
50JN	DIHYDROXYANTHRACENE
200JN	QUINOLINONE
200JN	METHYLQUINOLINONE(3 ISOMERS)
50JN	DIBENZOTHIOPHENE
100JN	QUINOLINOL
200JN	DIBENZOFURANOL
500JN	CARBAZOLE
100JN	FLUORENAMINE
100JN	ACRIDINONE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
50U	UG/L	1,3-DICHLOROBENZENE
50U	UG/L	1,4-DICHLOROBENZENE
50U	UG/L	1,2-DICHLOROBENZENE
50U	UG/L	BIS(2-CHLOROETHYL) ETHER
50U	UG/L	HEXACHLOROETHANE
50U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
50U	UG/L	N-NITROSODI-N-PROPYLAMINE
50U	UG/L	NITROBENZENE
50U	UG/L	HEXACHLOROBUTADIENE
50U	UG/L	1,2,4-TRICHLOROBENZENE
7600	UG/L	NAPHTHALENE
50U	UG/L	BIS(2-CHLOROETHOXY) METHANE
50U	UG/L	ISOPHORONE
50U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
50U	UG/L	2-CHLORONAPHTHALENE
110	UG/L	ACENAPHTHYLENE
420	UG/L	ACENAPHTHENE
50U	UG/L	DIMETHYL PHTHALATE
50U	UG/L	2,4-DINITROTOLUENE
50U	UG/L	2,6-DINITROTOLUENE
50U	UG/L	4-CHLOROPHENYL PHENYL ETHER
190	UG/L	FLUORENE
50U	UG/L	DIETHYL PHTHALATE
50U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
50U	UG/L	HEXACHLOROBENZENE (HCB)
50U	UG/L	4-BROMOPHENYL PHENYL ETHER
210	UG/L	PHENANTHRENE
20J	UG/L	ANTHRACENE
50U	UG/L	DI-N-BUTYLPHTHALATE
38J	UG/L	FLUORANTHENE
25J	UG/L	PYRENE
50U	UG/L	BENZYL BUTYL PHTHALATE
50U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
5.2J	UG/L	BENZO(A)ANTHRACENE
50U	UG/L	CHRYSENE
50U	UG/L	3,3'-DICHLOROBENZIDINE
50U	UG/L	DI-N-OCTYLPHTHALATE
50U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
50U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
50U	UG/L	BENZO-A-PYRENE
50U	UG/L	INDENO (1,2,3-CD) PYRENE
50U	UG/L	DIBENZO(A,H)ANTHRACENE
50U	UG/L	BENZO(GHI)PERYLENE
50U	UG/L	2-CHLOROPHENOL
50U	UG/L	2-NITROPHENOL
50U	UG/L	PHENOL
3200	UG/L	2,4-DIMETHYLPHENOL
50U	UG/L	2,4-DICHLOROPHENOL
50U	UG/L	2,4,6-TRICHLOROPHENOL
100U	UG/L	4-CHLORO-3-METHYLPHENOL
100U	UG/L	2,4-DINITROPHENOL
100U	UG/L	2-METHYL-4,6-DINITROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9936 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1100
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
240	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
20U	UG/L	COBALT
10U	UG/L	CHROMIUM
10U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
50U	UG/L	ANTIMONY
60U	UG/L	SELENIUM
100U	UG/L	TIN
1900	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
20U	UG/L	TITANIUM
NA	UG/L	THALLIUM
10U	UG/L	VANADIUM
10U	UG/L	YTTRIUM
20U	UG/L	ZINC
NA	UG/L	ZIRCONIUM
BAI	UG/L	MERCURY
2800	UG/L	ALUMINUM
1800	UG/L	MANGANESE
150	MG/L	CALCIUM
200	MG/L	MAGNESIUM
6.3	MG/L	IRON
1200	MG/L	SODIUM
NA	MG/L	POTASSIUM

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATEF
*K-AC VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-M AL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
TH IMATED MINIMUM QUANTITATION LIMIT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/14/85

SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9930 SAMPLE TYPE: MONWL

PROJECT NO.: 8D-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1545
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP DATA VERIFIED BY: RLQ

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
44000	UG/L	PHENOL (4AAP)	32730

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9930 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1545
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO RECEIVED FROM: B. FERGUSON

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
47J	ACETONE
1000	METHYL ETHYL KETONE
6.8J	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
2J	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE
5JN	METHYLFURAN
90JN	BENZOFURAN

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9930 SAMPLE TYPE: MONWG

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1545
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: EKA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
39	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
64	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
28	UG/L	ETHYL BENZENE
110	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85

EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9936 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003
SOURCE: CROWN ZELLERBACH PROGRAM ELEMENT: RCRA
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1100
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
40000U	BENZOIC ACID
8700J	2-METHYLPHENOL
5900J	4-METHYLPHENOL
20000U	2,4,5-TRICHLOROPHENOL
20000U	ANILINE
40000U	BENZYL ALCOHOL
20000U	4-CHLOROANILINE
97000	DIBENZOFURAN
120000	2-METHYL NAPHTHALENE
20000U	2-NITROANILINE
20000U	3-NITROANILINE
20000U	4-NITROANILINE
40000JN	1-METHYNAPHTHALENE
5000JN	C2 ALKYLNAPHTHALENE
20000JN	BIPHENYL
40000JN	METHYLBIPHENYL(2 ISOMERS)
50000JN	METHYLDIBENZOFURAN(2 ISOMERS)
20000JN	DIHYDROANTHRACENE
20000JN	METHYLFLUORENE
50000JN	DIBENZOTHIOPHENE
30000JN	CARBAZOLE
50000JN	PHENYLNAPHTHALENE
80000JN	METHYLPHENANTHRENE(2 ISOMERS)
80000JN	CYCLOPENTAPHENANTHRENE
10000JN	BENZONAPHTHOFURAN
100000JN	METHYLFLUORANTHENE(3 ISOMERS)
10000JN	TRIPHENYLENE
10000JN	BENZO(GHI)FLUORANTHENE
10000JN	METHYLBENZANTHRACENE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MA AL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9936 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1100
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
20000U	UG/L	1,3-DICHLOROBENZENE
20000U	UG/L	1,4-DICHLOROBENZENE
20000U	UG/L	1,2-DICHLOROBENZENE
20000U	UG/L	BIS(2-CHLOROETHYL) ETHER
20000U	UG/L	HEXACHLOROETHANE
20000U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
20000U	UG/L	N-NITROSODI-N-PROPYLAMINE
20000U	UG/L	NITROBENZENE
20000U	UG/L	HEXACHLOROBUTADIENE
20000U	UG/L	1,2,4-TRICHLOROBENZENE
380000	UG/L	NAPHTHALENE
20000U	UG/L	BIS(2-CHLOROETHOXY) METHANE
20000U	UG/L	ISOPHORONE
20000U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
20000U	UG/L	2-CHLORONAPHTHALENE
2700	UG/L	ACENAPHTHYLENE
140000	UG/L	ACENAPHTHENE
20000U	UG/L	DIMETHYL PHTHALATE
20000U	UG/L	2,4-DINITROTOLUENE
20000U	UG/L	2,6-DINITROTOLUENE
20000U	UG/L	4-CHLOROPHENYL PHENYL ETHER
140000	UG/L	FLUORENE
20000U	UG/L	DIETHYL PHTHALATE
20000U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20000U	UG/L	HEXACHLOROBENZENE (HCB)
20000U	UG/L	4-BROMOPHENYL PHENYL ETHER
340000	UG/L	PHENANTHRENE
45000	UG/L	ANTHRACENE
20000U	UG/L	DI-N-BUTYLPHTHALATE
190000	UG/L	FLUORANTHENE
140000	UG/L	PYRENE
20000U	UG/L	BENZYL BUTYL PHTHALATE
20000U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
50000	UG/L	BENZO(A)ANTHRACENE
42000	UG/L	CHRYSENE
20000U	UG/L	3,3'-DICHLOROBENZIDINE
20000U	UG/L	DI-N-OCTYLPHTHALATE
38000	UG/L	BENZO(B AND/OR K)FLUORANTHENE
--	UG/L	BENZO(B AND/OR K)FLUORANTHENE
10000	UG/L	BENZO-A-PYRENE
10000	UG/L	INDENO (1,2,3-CD) PYRENE
20000U	UG/L	DIBENZO(A,H)ANTHRACENE
6100	UG/L	BENZO(GHI)PERYLENE
20000U	UG/L	2-CHLOROPHENOL
20000U	UG/L	2-NITROPHENOL
20000U	UG/L	PHENOL
8400	UG/L	2,4-DIMETHYLPHENOL
20000U	UG/L	2,4-DICHLOROPHENOL
20000U	UG/L	2,4,6-TRICHLOROPHENOL
40000U	UG/L	4-CHLORO-3-METHYLPHENOL
40000U	UG/L	2,4-DINITROPHENOL
40000U	UG/L	2-METHYL-4,6-DINITROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD/REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 00/00/00 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
97	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
20U	UG/L	COBALT
10U	UG/L	CHROMIUM
10U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
30U	UG/L	ANTIMONY
40U	UG/L	SELENIUM
100U	UG/L	TIN
290	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
10U	UG/L	TITANIUM
NA	UG/L	THALLIUM
10U	UG/L	VANADIUM
10U	UG/L	YTTRIUM
10U	UG/L	ZINC
NA	UG/L	ZIRCONIUM
0.2U	UG/L	MERCURY
750	UG/L	ALUMINUM
340	UG/L	MANGANESE
92	MG/L	CALCIUM
14	MG/L	MAGNESIUM
5.3	MG/L	IRON
110	MG/L	SODIUM
NA	MG/L	POTASSIUM

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*U-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATER
*K-ACT VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-M AL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
TH MATED MINIMUM QUANTITATION LIMIT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
9400	UG/L	PHENOL (4AAP)	32730

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 00/00/00 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEB DATA VERIFIED BY: RLQ

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*O-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE,/TIME 00/00/00 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
28J	ACETONE
45J	METHYL ETHYL KETONE
20U	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
3J	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE
40JN	METHYLFURAN
100JN	BENZOFURAN

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACT VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACT VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MAL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS
THE MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 00/00/00 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FKA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
0.7J	UG/L	CHLOROMETHANE
5U	UG/L	BROMOMETHANE
5U	UG/L	VINYL CHLORIDE
5U	UG/L	CHLOROETHANE
5U	UG/L	METHYLENE CHLORIDE
5U	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
5U	UG/L	1,1-DICHLOROETHANE
5U	UG/L	TRANS-1,2-DICHLOROETHENE
5U	UG/L	CHLOROFORM
5U	UG/L	1,2-DICHLOROETHANE
5U	UG/L	1,1,1-TRICHLOROETHANE
5U	UG/L	CARBON TETRACHLORIDE
5U	UG/L	BROMODICHLOROMETHANE
5U	UG/L	1,2-DICHLOROPROPANE
5U	UG/L	TRANS-1,3-DICHLOROPROPENE
5U	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
40	UG/L	BENZENE
5U	UG/L	DIBROMOCHLOROMETHANE
5U	UG/L	1,1,2-TRICHLOROETHANE
5U	UG/L	CIS-1,3-DICHLOROPROPENE
5U	UG/L	2-CHLOROETHYLVINYL ETHER
5U	UG/L	BROMOFORM
5U	UG/L	1,1,2,2-TETRACHLOROETHANE
5U	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
79	UG/L	TOLUENE
5U	UG/L	CHLOROBENZENE
36	UG/L	ETHYL BENZENE
120	UG/L	TOTAL XYLENES

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 00/00/00 1126 RECEIVED FROM: B. FERGUSON
SEALED: NO REC'D BY: D. COLQUITT

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
4000U	BENZOIC ACID
1100	2-METHYLPHENOL
2200	4-METHYLPHENOL
2000U	2,4,5-TRICHLOROPHENOL
2000U	ANILINE
2000U	BENZYL ALCOHOL
4000U	4-CHLOROANILINE
3200	DIBENZOFURAN
4400	2-METHYL NAPHTHALENE
4000U	2-NITROANILINE
4000U	3-NITROANILINE
4000U	4-NITROANILINE
30000JN	C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(2 ISOMERS)
800JN	C3 ALKYLPHENOL
10000JN	1-METHYLNAPHTHALENE
5200JN	C2 ALKYLNAPHTHALENE
200JN	DIHYDROINDENOL
700JN	BIPHENYL
200JN	DIHYDROINDOLONE
800JN	METHYLDIBENZOFURAN
200JN	METHYLFLUORENE
400JN	DIHYDROANTHRACENE
1000JN	QUINOLINONE
1000JN	DIBENZOTHIOPHENE
1000JN	CARBAZOLE
3000JN	METHYLPHENANTHRENE(2 ISOMERS)
2000JN	CYCLOPENTAPHENANTHRENE
500JN	PHENYLNAPHTHALENE
2000JN	METHYLFLUORANTHENE(2 ISOMERS)

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 00/00/00 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE. *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
2000U	UG/L	1,3-DICHLOROBENZENE
2000U	UG/L	1,4-DICHLOROBENZENE
2000U	UG/L	1,2-DICHLOROBENZENE
2000U	UG/L	BIS(2-CHLOROETHYL) ETHER
2000U	UG/L	HEXACHLOROETHANE
2000U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
2000U	UG/L	N-NITROSODI-N-PROPYLAMINE
2000U	UG/L	NITROBENZENE
2000U	UG/L	HEXACHLOROBUTADIENE
2000U	UG/L	1,2,4-TRICHLOROBENZENE
18000	UG/L	NAPHTHALENE
2000U	UG/L	BIS(2-CHLOROETHOXY) METHANE
2000U	UG/L	ISOPHORONE
2000U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
2000U	UG/L	2-CHLORONAPHTHALENE
2000U	UG/L	ACENAPHTHYLENE
4600	UG/L	ACENAPHTHENE
2000U	UG/L	DIMETHYL PHTHALATE
2000U	UG/L	2,4-DINITROTOLUENE
2000U	UG/L	2,6-DINITROTOLUENE
2000U	UG/L	4-CHLOROPHENYL PHENYL ETHER
4400	UG/L	FLUORENE
2000U	UG/L	DIETHYL PHTHALATE
2000U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
2000U	UG/L	HEXACHLOROBENZENE (HCB)
2000U	UG/L	4-BROMOPHENYL PHENYL ETHER
10000	UG/L	PHENANTHRENE
1300J	UG/L	ANTHRACENE
2000U	UG/L	DI-N-BUTYLPHTHALATE
5700	UG/L	FLUORANTHENE
4000	UG/L	PYRENE
2000U	UG/L	BENZYL BUTYL PHTHALATE
2000U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
1400J	UG/L	BENZO(A)ANTHRACENE
1200J	UG/L	CHRYSENE
2000U	UG/L	3,3'-DICHLOROBENZIDINE
2000U	UG/L	DI-N-OCTYLPHTHALATE
1100J	UG/L	BENZO(B AND/OR K)FLUORANTHENE
--	UG/L	BENZO(B AND/OR K)FLUORANTHENE
450J	UG/L	BENZO-A-PYRENE
2000U	UG/L	INDENO (1,2,3-CD) PYRENE
2000U	UG/L	DIBENZO(A,H)ANTHRACENE
2000U	UG/L	BENZO(GHI)PERYLENE
2000U	UG/L	2-CHLOROPHENOL
2000U	UG/L	2-NITROPHENOL
2000U	UG/L	PHENOL
6100	UG/L	2,4-DIMETHYLPHENOL
2000U	UG/L	2,4-DICHLOROPHENOL
2000U	UG/L	2,4,6-TRICHLOROPHENOL
40000U	UG/L	4-CHLORO-3-METHYLPHENOL
40000U	UG/L	2,4-DINITROPHENOL
40000U	UG/L	2-METHYL-4,6-DINITROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
78	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
62	UG/L	COBALT
10U	UG/L	CHROMIUM
10U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
30U	UG/L	ANTIMONY
40U	UG/L	SELENIUM
100U	UG/L	TIN
98	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
15	UG/L	TITANIUM
NA	UG/L	THALLIUM
10U	UG/L	VANADIUM
10U	UG/L	YTTRIUM
13	UG/L	ZINC
NA	UG/L	ZIRCONIUM
0.2U	UG/L	MERCURY
1000	UG/L	ALUMINUM
190	UG/L	MANGANESE
6.2	MG/L	CALCIUM
7.2	MG/L	MAGNESIUM
1.7	MG/L	IRON
56	MG/L	SODIUM
NA	MG/L	POTASSIUM

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
38	UG/L	PHENOL (4AAP)	32730

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: MFP DATA VERIFIED BY: RLO

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
100U	ACETONE
100U	METHYL ETHYL KETONE
20U	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
20U	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTU VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-M , WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
50	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
50	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
50	UG/L	ETHYL BENZENE
50	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
20U	BENZOIC ACID
10U	2-METHYLPHENOL
10U	4-METHYLPHENOL
10U	2,4,5-TRICHLOROPHENOL
10U	ANILINE
10U	BENZYL ALCOHOL
20U	4-CHLOROANILINE
10U	DIBENZOFURAN
10U	2-METHYL NAPHTHALENE
10U	2-NITROANILINE
10U	3-NITROANILINE
10U	4-NITROANILINE

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-AC VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MA AL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS
MINIMUM DETECTION LIMIT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
10U	UG/L	1,3-DICHLOROBENZENE
10U	UG/L	1,4-DICHLOROBENZENE
10U	UG/L	1,2-DICHLOROBENZENE
10U	UG/L	BIS(2-CHLOROETHYL) ETHER
10U	UG/L	HEXACHLOROETHANE
10U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
10U	UG/L	N-NITROSODI-N-PROPYLAMINE
10U	UG/L	NITROBENZENE
10U	UG/L	HEXACHLOROBUTADIENE
10U	UG/L	1,2,4-TRICHLOROBENZENE
10U	UG/L	NAPHTHALENE
10U	UG/L	BIS(2-CHLOROETHOXY) METHANE
10U	UG/L	ISOPHORONE
10U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	UG/L	2-CHLORONAPHTHALENE
10U	UG/L	ACENAPHTHYLENE
10U	UG/L	ACENAPHTHENE
10U	UG/L	DIMETHYL PHTHALATE
10U	UG/L	2,4-DINITROTOLUENE
10U	UG/L	2,6-DINITROTOLUENE
10U	UG/L	4-CHLOROPHENYL PHENYL ETHER
10U	UG/L	FLUORENE
10U	UG/L	DIETHYL PHTHALATE
10U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	UG/L	HEXACHLOROBENZENE (HCB)
10U	UG/L	4-BROMOPHENYL PHENYL ETHER
10U	UG/L	PHENANTHRENE
10U	UG/L	ANTHRACENE
10U	UG/L	DI-N-BUTYLPHTHALATE
10U	UG/L	FLUORANTHENE
10U	UG/L	PYRENE
10U	UG/L	BENZYL BUTYL PHTHALATE
10U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
10U	UG/L	BENZO(A)ANTHRACENE
10U	UG/L	CHRYSENE
10U	UG/L	3,3'-DICHLOROBENZIDINE
10U	UG/L	DI-N-OCTYLPHTHALATE
10U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
10U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
10U	UG/L	BENZO-A-PYRENE
10U	UG/L	INDENO (1,2,3-CD) PYRENE
10U	UG/L	DIBENZO(A,H)ANTHRACENE
10U	UG/L	BENZO(GHI)PERYLENE
10U	UG/L	2-CHLOROPHENOL
10U	UG/L	2-NITROPHENOL
10U	UG/L	PHENOL
10U	UG/L	2,4-DIMETHYLPHENOL
10U	UG/L	2,4-DICHLOROPHENOL
10U	UG/L	2,4,6-TRICHLOROPHENOL
20U	UG/L	4-CHLORO-3-METHYLPHENOL
20U	UG/L	2,4-DINITROPHENOL
20U	UG/L	2-METHYL-4,6-DINITROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	SILVER
30U	UG/L	ARSENIC
NA	UG/L	BORON
50	UG/L	BARIUM
10U	UG/L	BERYLLIUM
10U	UG/L	CADMIUM
20U	UG/L	COBALT
10U	UG/L	CHROMIUM
10U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
20U	UG/L	NICKEL
30U	UG/L	LEAD
30U	UG/L	ANTIMONY
40U	UG/L	SELENIUM
100U	UG/L	TIN
170	UG/L	STRONTIUM
40U	UG/L	TELLURIUM
10U	UG/L	TITANIUM
NA	UG/L	THALLIUM
10U	UG/L	VANADIUM
10U	UG/L	YTTRIUM
10U	UG/L	ZINC
NA	UG/L	ZIRCONIUM
0.2U	UG/L	MERCURY
200	UG/L	ALUMINUM
680	UG/L	MANGANESE
18	MG/L	CALCIUM
16	MG/L	MAGNESIUM
12	MG/L	IRON
76	MG/L	SODIUM
NA	MG/L	POTASSIUM

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACT VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MA L WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE MATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
28J	UG/L	PHENOL (4AAP)	32730

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP DATA VERIFIED BY: RLQ

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
100U	ACETONE
100U	METHYL ETHYL KETONE
20U	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
20U	STYRENE
20U	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACT VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACT VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MF WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS
MINIMUM DETECTION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
50	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
50	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
50	UG/L	ETHYL BENZENE
50	UG/L	TOTAL XYLENES

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
23U	BENZOIC ACID
12U	2-METHYLPHENOL
12U	4-METHYLPHENOL
12U	2,4,5-TRICHLOROPHENOL
12U	ANILINE
12U	BENZYL ALCOHOL
23U	4-CHLOROANILINE
12U	DIBENZOFURAN
12U	2-METHYL NAPHTHALENE
12U	2-NITROANILINE
12U	3-NITROANILINE
12U	4-NITROANILINE
70JN	CAPROLACTAM

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATER
*K-AC VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-AC VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U- AL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE ESTIMATED MINIMUM QUANTITATION LIMIT.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
12U	UG/L	1,3-DICHLOROBENZENE
12U	UG/L	1,4-DICHLOROBENZENE
12U	UG/L	1,2-DICHLOROBENZENE
12U	UG/L	BIS(2-CHLOROETHYL) ETHER
12U	UG/L	HEXACHLOROETHANE
12U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
12U	UG/L	N-NITROSODI-N-PROPYLAMINE
12U	UG/L	NITROBENZENE
12U	UG/L	HEXACHLOROBUTADIENE
12U	UG/L	1,2,4-TRICHLOROBENZENE
12U	UG/L	NAPHTHALENE
12U	UG/L	BIS(2-CHLOROETHOXY) METHANE
12U	UG/L	ISOPHORONE
12U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
12U	UG/L	2-CHLORONAPHTHALENE
12U	UG/L	ACENAPHTHYLENE
12U	UG/L	ACENAPHTHENE
12U	UG/L	DIMETHYL PHTHALATE
12U	UG/L	2,4-DINITROTOLUENE
12U	UG/L	2,6-DINITROTOLUENE
12U	UG/L	4-CHLOROPHENYL PHENYL ETHER
12U	UG/L	FLUORENE
12U	UG/L	DIETHYL PHTHALATE
12U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
12U	UG/L	HEXACHLOROBENZENE (HCB)
12U	UG/L	4-BROMOPHENYL PHENYL ETHER
12U	UG/L	PHENANTHRENE
12U	UG/L	ANTHRACENE
12U	UG/L	DI-N-BUTYLPHTHALATE
12U	UG/L	FLUORANTHENE
12U	UG/L	PYRENE
12U	UG/L	BENZYL BUTYL PHTHALATE
12U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
12U	UG/L	BENZO(A)ANTHRACENE
12U	UG/L	CHRYSENE
12U	UG/L	3,3'-DICHLOROBENZIDINE
12U	UG/L	DI-N-OCTYLPHTHALATE
12U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
12U	UG/L	BENZO(B AND/OR K)FLUORANTHENE
12U	UG/L	BENZO-A-PYRENE
12U	UG/L	INDENO (1,2,3-CD) PYRENE
12U	UG/L	DIBENZO(A,H)ANTHRACENE
12U	UG/L	BENZO(GHI)PERYLENE
12U	UG/L	2-CHLOROPHENOL
12U	UG/L	2-NITROPHENOL
12U	UG/L	PHENOL
12U	UG/L	2,4-DIMETHYLPHENOL
12U	UG/L	2,4-DICHLOROPHENOL
12U	UG/L	2,4,6-TRICHLOROPHENOL
23U	UG/L	4-CHLORO-3-METHYLPHENOL
23U	UG/L	2,4-DINITROPHENOL
23U	UG/L	2-METHYL-4,6-DINITROPHENOL

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Leigh Pegues, Director

Guy Hunt
Governor

1751 Cong. W. L. Dickinson Drive
Montgomery, AL
36130
205/271-7700

Field Offices:

Unit 806, Building 8
225 Oxmoor Circle
Birmingham, AL
35209
205/942-6168

P.O. Box 953
Decatur, AL
35602
205/353-1713

4 Perimeter Road
Mobile, AL
36615
205/479-2336

February 27, 1989

Mr. Winston Russell
Cavenham Forest Industries
P. O. Box 2219
Gulfport, MS 39505-2219

Dear Mr. Russell

Enclosed you will find a copy of the analysis of the water samples that were taken from the wells located at the Cavenham's Mobile facility in September of 1988.

If you have any questions, please contact me at (205) 271-7489.

Sincerely,

James E. Thomas
Geologist
Groundwater Section
Water Division

JET/sjd

Enclosure

CAVENHAM FOREST INDUSTRIES, INCORPORATED
Comprehensive Groundwater Inspection

November 14, 1988

Alabama Department of Environmental Management
Field Operations Division
Fiscal Year 1988

INTRODUCTION

On September 20-21, 1988, staff members of the Field Operations Division of the Alabama Department of Environmental Management (ADEM) conducted a comprehensive groundwater inspection at the Cavenham Forest Industries, Incorporated facility at Mobile, Alabama in Mobile county (see Figure 1). The persons involved with the sampling during the investigation were as follows:

Brien Diggs	ADEM/FOD
Ronald Ford	ADEM/FOD
Jim Thomas	ADEM/WD
George Weiss	Cavenham Forest
Winston Russell	Woodward-Clyde Consultants

Mr. Jim Thomas was the Departmental geologist from the ADEM Water Division assigned to evaluate the local geology and hydrogeology and to inspect the groundwater monitoring system. Duplicate samples were offered to and accepted by Mr. George Weiss.

The comprehensive groundwater inspection comprised two major aspects: a relative elevation survey of the groundwater monitoring system and a sampling program involoving the four ground water monitoring wells. The inspection was conducted in order to determine if the facility is complying with the Federal and State groundwater monitoring regulations and standards. The data generated from analysis of groundwater samples are included in the back of this report, as are the data from the relative elevation survey portion of this inspection.

The comprehensive groundwater inspection was performed at the request of Mrs. Margaret M. Corey of the Hazardous Waste Branch of ADEM. The geological review and groundwater assessment portions will be forthcoming and are furnished by Fred Mason of the Groundwater Section, Water Division, of ADEM.

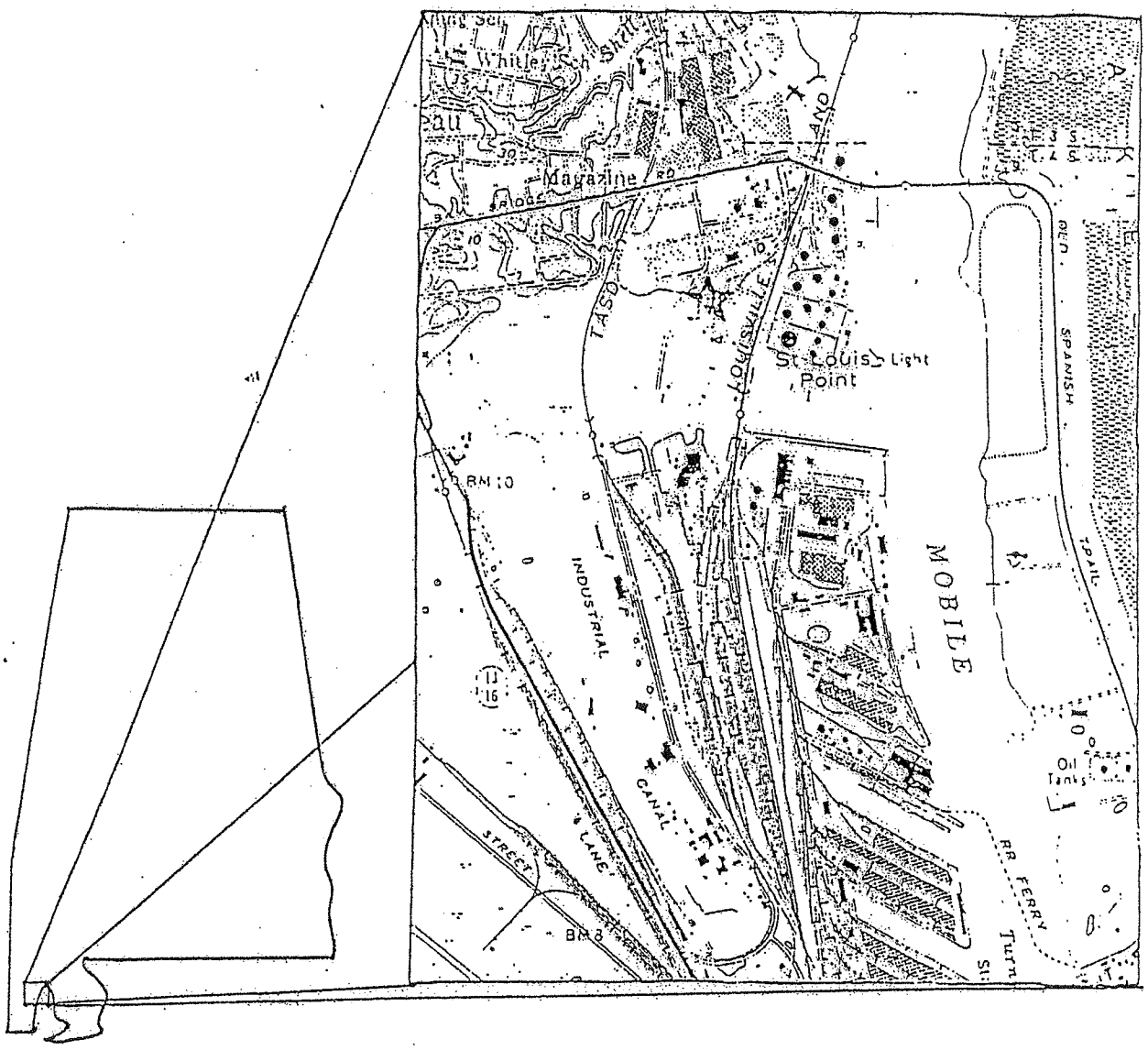


Figure 1

Facility Location Map
Cavenham Forest Products
Mobile, Alabama

BACKGROUND

The Crown Zellerbach Corporation operated a facility (Mobil Treated Woods Products) for the preservative treatment of wood products. The RCRA regulated hazardous waste management area consisted of an aeration pond and two concrete lined vacuum ponds. Crown Zellerbach installed approximately 30 wells to determine the rate, extent of migration, and the concentration of hazardous waste constituents in the groundwater. On May 5, 1986, Crown Zellerbach transferred the assets comprising the Mobile facility to Cavenham Forest Industries, Inc. Interim Status was also transferred. On June 4, 1986, EPA recieved the revised closure plan for the Cavenham facility. In the closure plan, Cavenham proposed to close the surface impoundments and sand filter beds by leaving the waste sludges in place. A cutoff wall would be installed to contain the closed area and a cover system placed on the closed area. The closure plan was public noticed in June 1986 and approved/modified March 11, 1987. Closure was to start within 60 days of recieving the approval notice. As of the date of this comprehensive groundwater monitoring evaluation, the site is still being reviewed for closing.

DATA AND ANALYTICAL RESULTS

The complete ADEM data is included in this report as a section of tables at the rear of the report.

RCRA Well Data

National Interim Primary Drinking Water Standards (NIPDWS)

These parameters were not sampled for during this inspection.

General Groundwater Quality Indicator Parameters

These parameters were not sampled for during this inspection.

Groundwater Contamination Indicator Parameters

The pH measurements obtained by Field Operations personnel were in the 4.75 - 10.85 standard unit range with pH's of 4.76 in Well UG-2, and 10.82 in Well B-25 (see Table 1).

The specific conductance measurements obtained were in the 180 to 1600 umho/cm range. Well B-1 had 180 umho/cm while Well B-56 had 1600 umho/cm (see Table 1).

In addition, Extractable Compounds data indicated the presence of the following contaminants (see Table 3):

Phenol in well B-29.
2,4-Dimethylphenol in well DG-1.
4-Nitrophenol in well DG-1.
Hexachloroethane in wells B-55, B-56, and B-57.
Naphthalene in wells B-56, B-57, and DG-1.
Acenaphthene in wells B-25, and DG-1.
2,4-Dinitrotoluene in wells B-19B, B-25, B-26.
Fluorene in well DG-1.

Phenanthrene in wells B-55, B-56, and B-57.
Anthracene in well B-55.

RELATIVE ELEVATION SURVEY

From the data recieved from the relative elevation survey, the upgradient well (MW-1) was measured as a relative water table elevation of 35.67 feet mean sea level (fmsl). All other wells measure less than 35.67 fmsl. See Table 2 for relative elevation data.

STUDY METHODOLOGY

All sample collection and sample handling techniques utilized during the acquisition of data for this comprehensive groundwater monitoring inspection were as described in the Field Operations Division Standard Operating Procedures and Quality Control Assurance Manual, Field Operations Division, ADEM, December 1986.

Laboratory analyses were performed by the ADEM Central Laboratory, Montgomery, Alabama. Chain-of-custody was maintained by locking samples in a State vehicle when not in sight of a Field Operations employee.

CAVENHAM FOREST INDUSTRIES, INCORPORATED

TABLE 1
MONITORING WELL DATA

DATE	WELL #	TIME	DEPTH TO WATER	TOTAL WELL DEPTH	DEPTH OF WATER	DIAMETER OF CASING	pH	SPECIFIC CONDUCT.	WATER TEMP.	mV
09/21/88	UG-1	11:40	1.39	9.29	7.90	2	6.14	950	24.0	045
							6.15	950	23.7	044
							6.16	950	23.5	044
							6.16	950	23.5	044
09/21/88	UG-2	11:21	1.59	5.87	4.28	2	4.76	370	24.1	130
							4.76	370	23.9	130
							4.76	370	23.9	130
							4.76	370	23.9	130
09/21/88	DG-1	11:55	1.32	12.84	11.52	2	5.74	1300	22.6	069
							5.74	1300	22.3	068
							5.75	1300	22.3	068
							5.75	1300	22.2	068
09/21/88	DG-2	12:35	0.88	15.59	14.61	2	4.98	1200	26.6	116
							4.98	1200	26.4	116
							4.99	1200	26.5	116
							4.99	1200	26.5	115
09/20/88	DG-3	DAMAGED DURING CONSTRUCTION					DAMAGED DURING CONSTRUCTION			
09/21/88	B-1	11:29	0.94	26.82	25.88	2	6.81	180	27.3	003
							6.81	180	27.2	003
							6.82	180	27.2	002
							6.82	180	27.2	002
09/20/88	B-4A	PLUGGED AND ABANDONED					PLUGGED AND ABANDONED		PLUGGED AND ABANDONED	
09/20/88	B-15	PLUGGED AND ABANDONED					PLUGGED AND ABANDONED		PLUGGED AND ABANDONED	
09/20/88	B-19B	16:50	2.81	33.77	30.96	4	6.65	900	26.0	014
							6.66	900	26.8	014
							6.66	900	28.0	014
							6.66	900	28.5	014
09/20/88	B-24	COULD NOT LOCATE - MAY BE BUR					COULD NOT LOCATE - MAY BE BURIED			

CAVENHAM FOREST INDUSTRIES, INCORPORATED

TABLE 1
MONITORING WELL DATA
(CONTINUED)

DATE	WELL #	TIME	DEPTH TO WATER	TOTAL WELL DEPTH	DEPTH OF WATER	DIAMETER OF CASING	pH	SPECIFIC CONDUCT.	WATER TEMP.	mV
09/21/88	B-25	12:16	1.42	33.78	32.36	2	10.78	1000	27.3	-244
							10.80	1000	27.2	-245
							10.82	1000	27.2	-246
							10.82	1000	27.2	-246
09/21/88	B-26	12:09	0.78	26.55	25.77	2	6.63	1200	25.3	014
							6.63	1200	25.3	014
							6.64	1200	25.3	014
							6.55	1200	25.3	014
09/21/88	B-27	11:47	1.40	28.16	26.67	2	6.25	340	25.7	038
							6.25	340	25.5	038
							6.25	340	25.6	038
							6.25	340	25.5	038
09/20/88	B-28	BROKEN BELOW GROUND LEVEL - WILL BE REPAIRED								
09/21/88	B-29	12:22	0.86	14.66	13.80	2	5.70	1000	25.4	072
							5.70	1000	25.0	072
							5.70	1000	24.9	072
							5.70	1000	24.8	072
09/20/88	B-36	WELL CASING BENT			WELL CASING BENT			WELL CASING BENT		
09/21/88	B-37	12:29	1.55	14.38	12.83	2	5.15	600	25.0	105
							5.15	600	24.7	106
							5.15	600	24.6	105
							5.15	600	24.5	105
09/20/88	B-48	WELL CASING BENT - BAILER OBSTRUCTING WELL								
09/20/88	B-55	17:00	2.21	33.88	31.67	2	6.03	750	25.6	052
							6.03	750	25.1	052
							6.04	750	24.9	052
							6.04	750	24.9	052
			(m)	(m)	(m)	(in)	(S.U.)	(umho/cm)	(C)	(mV)

CAVENHAM FOREST INDUSTRIES, INCORPORATED

TABLE 1
MONITORING WELL DATA
(CONTINUED)

DATE	WELL #	TIME	DEPTH TO WATER	TOTAL WELL DEPTH	DEPTH OF WATER	DIAMETER OF CASING	pH	SPECIFIC CONDUCT.	WATER TEMP.	mV
09/20/88	B-56	17:20	3.07	32.15	29.08	2	6.26	1600	25.4	039
							6.27	1600	25.2	038
							6.28	1600	25.2	038
							6.28	1600	25.3	038
09/20/88	B-57	17:35	3.60	30.87	27.27	2	7.39	600	24.6	-031
							7.40	600	24.6	-032
							7.41	600	24.6	-032
							7.41	600	24.6	-032
09/20/88	B-58	17:55	2.63	35.32	32.58	2	6.37	900	25.2	032
							6.37	900	24.8	031
							6.38	900	24.8	031
							6.38	900	24.8	030
			(m)	(m)	(m)	(in)	(S.U.)	(umho/cm)	(C)	(mV)

CAVENHAM FOREST INDUSTRIES, INCORPORATED

TABLE 2
RELATIVE ELEVATION DATA

WELL #	DEPTH TO WATER (TOC)	WELL CASING STICKUP	RELATIVE WELL ELEVATION (TOC)	RELATIVE WATER TABLE ELEVATION
UG-1	4.56	1.67	7.57	3.01
UG-2	5.22	1.74	8.52	3.30
DG-1	4.33	1.97	6.51	2.18
DG-2	2.89	1.87	5.81	2.92
B-1 D	-3.08	0.85	6.32	3.24
B-19B D	-9.22	2.69	12.04	2.82
B-25 D	-4.66	2.33	7.48	2.82
B-26 D	-2.56	1.74	5.13	2.57
B-27 D	-4.59	2.69	7.47	2.88
B-29	2.82	2.56	5.65	2.83
B-37	5.09	3.12	?	?
B-55 D	-7.25	2.59	10.11	2.86
B-56 D	-10.07	2.46	12.56	2.49
B-57 D	-11.81	2.43	14.60	2.79
B-58 D	-8.63	2.46	11.13	2.50
	(ft)	(ft)	(fmsl)	(fmsl)

TABLE 3

CAVENHAM FOREST INDUSTRIES, INC.
LABORATORY ANALYSES DATA

ACID EXTRACTABLE COMPOUNDS	B-1	B-19B	B-25	B-26	B-27	B-29	B-37	B-55
Phenol	<detect	<detect	<detect	<detect	<detect	6.8	<detect	<detect
2-Chlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2-Nitrophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,4-Dimethylphenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,4-Dichlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
4-Chloro-3-methylphenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,4,6-Trichlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,4-Dinitrophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
4-Nitrophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2-methyl-4,6-dinitrophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Pentachlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)

BASE/NEUTRAL COMPOUNDS								
Bis (2-chloroethyl) ether	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,3-Dichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,4-Dichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,2-Dichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Bis (2-chloroisopropyl) ether	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Hexachloroethane	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
N-nitroso-di-n-propylamine	<detect	<detect	<detect	<detect	<detect	<detect	<detect	17.3
Nitrobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Isophorone	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Bis (2-chloroethoxy) methane	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,2,4-Trichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Naphthalene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Hexachlorobutadiene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Hexachlorocyclopentadiene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2-Chloronaphthalene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Acenaphthylene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Dimethylphthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,6-Dinitrotoluene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Acenaphthene	<detect	<detect	9.5	<detect	<detect	<detect	<detect	<detect
2,4-Dinitrotoluene	<detect	16.6	16.8	16.9	<detect	<detect	<detect	<detect
Flourene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
4-Chlorophenyl phenyl ether	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Diethyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
-nitrosodiphenylamine	<detect	<detect	tect	<detect	<detect	<detect	<detect	<det-
1,2-diphenylhydrazine	<detect	<detec	-tect	<detect	<detect	<detect	<detect	<de

TABLE 3
(CONTINUED)

CAVENHAM FOREST INDUSTRIES, INC.
LABORATORY ANALYSES DATA

BASE/NEUTRAL COMPOUNDS	B-1	B-19B	B-25	B-26	B-27	B-29	B-37	B-55
Phenanthrene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	57.6
Anthracene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	7.7
Dibutyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Fluoranthene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Pyrene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzidine	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Butyl benzyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,3,7,8-Tetrachlorodibenzo-p-dioxin	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (a) anthracene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Chrysene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
3,3'-Dichlorobenzidine	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Bis (2-ethylhexyl) phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Di-n-octyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (b) fluoranthene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (k) fluoranthene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (a) pyrene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Indeno (1,2,3-cd) pyrene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Dibenzo (a,h) anthracene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (g,h,i) perylene	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
N-nitrosodimethylamine	<detect	<detect	<detect	<detect	<detect	<detect	<detect	<detect
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)

TABLE 3
(CONTINUED)

CAVENHAM FOREST INDUSTRIES, INC.
LABORATORY ANALYSES DATA

ACID EXTRACTABLE COMPOUNDS	B-56	B-57	B-58	DG-1	DG-2	UG-1	UG-2
Phenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2-Chlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2-Nitrophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,4-Dimethylphenol	<detect	<detect	<detect	7.6	<detect	<detect	<detect
2,4-Dichlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
4-Chloro-3-methylphenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,4,6-Trichlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,4-Dinitrophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
4-Nitrophenol	<detect	<detect	<detect	79.9	<detect	<detect	<detect
2-methyl-4,6-dinitrophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Pentachlorophenol	<detect	<detect	<detect	<detect	<detect	<detect	<detect
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
BASE/NEUTRAL COMPOUNDS							
Bis (2-chloroethyl) ether	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,3-Dichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,4-Dichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,2-Dichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Bis (2-chloroisopropyl) ether	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Hexachloroethane	5.9	5.1	<detect	<detect	<detect	<detect	<detect
N-nitroso-di-n-propylamine	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Nitrobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Isophorone	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Bis (2-chloroethoxy) methane	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,2,4-Trichlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Naphthalene	308.9	407.3	<detect	191.3	<detect	<detect	<detect
Hexachlorobutadiene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Hexachlorocyclopentadiene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2-Chloronaphthalene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Acenaphthylene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Dimethylphthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,6-Dinitrotoluene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Acenaphthene	<detect	<detect	<detect	35.4	<detect	<detect	<detect
2,4-Dinitrotoluene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Flourene	<detect	<detect	<detect	9.3	<detect	<detect	<detect
4-Chlorophenyl phenyl ether	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Diethyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect
4-nitrosodiphenylamine	<detect	<detect	<detect	<detect	<detect	<detect	<detect
1,2-diphenylhydrazine	<detect	<detect	<detect	<detect	<detect	<detect	<detect

TABLE 3
(CONTINUED)

CAVENHAM FOREST INDUSTRIES, INC.
LABORATORY ANALYSES DATA

BASE/NEUTRAL COMPOUNDS	B-56	B-57	B-58	DG-1	DG-2	UG-1	UG-2
Hexachlorobenzene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Phenanthrene	37.3	36.1	<detect	<detect	<detect	<detect	<detect
Anthracene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Dibutyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Fluoranthene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Pyrene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzidine	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Butyl benzyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect
2,3,7,8-Tetrachlorodibenzo-p-dioxin	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (a) anthracene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Chrysene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
3,3'-Dichlorobenzidire	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Bis (2-ethylhexyl) phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Di-n-octyl phthalate	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (b) fluoranthene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (k) fluoranthene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Indeno (1,2,3-cd) pyrene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Dibenzo (a,h) anthracene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
Benzo (g,h,i) perylene	<detect	<detect	<detect	<detect	<detect	<detect	<detect
N-nitrosodimethylamine	<detect	<detect	<detect	<detect	<detect	<detect	<detect
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CPOSR ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: FHA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: JFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MAT
*< VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*> VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
49	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
81	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
35	UG/L	ETHYL BENZENE
120	UG/L	TOTAL XYLENES

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: NORWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JHS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*<-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*>-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED

****ANALYTICAL RESULTS****

RESULTS IN: UG/L	COMPOUND NAME
1000	BENZOIC ACID
300	2-METHYLPHENOL
500	4-METHYLPHENOL
500	2,4,5-TRICHLOROPHENOL
500	ANILINE
500	BENZYL ALCOHOL
1000	4-CHLOROANILINE
190	DIBENZOFURAN
610	2-METHYLNAPHTHALENE
1000	2-NITROANILINE
1000	3-NITROANILINE
1000	4-NITROANILINE
400.JA	C5 ALKYLBENZENES(5 ISOMERS)
200.JA	C6 ALKYLBENZENE(4 ISOMERS)
80.JA	BENZOFURAN
200.JA	METHYLSTYRENE
50.JA	C2 ALKYLSTYRENE
200.JA	C3 ALKYLTHIOPHENE
50.JA	METHYLBENZONITRILE
50.JA	PHENYLPROPENAL
3000.JA	C2 ALKYLPHENOL(OUT 2,4-DIMETHYL)(5 ISOMERS)
3000.JA	C3 ALKYLPHENOL(9 ISOMERS)
1000.JA	C4 ALKYLPHENOL(6 ISOMERS)
400.JA	BENZOTHIOPHENE
500.JA	DIOXOHEXENOIC
100.JA	DIHYDROTRIOXEPINE
800.JA	1-METHYLNAPHTHALENE
200.JA	C2 ALKYLNAPHTHALENE(3 ISOMERS)
100.JA	BIPHENYL
200.JA	DIHYDROXYDOLONE(2 ISOMERS)
100.JA	DAPSTHALENECARBONITRILE
700.JA	NAPHTHALENOL
300.JA	METHYLNAPHTHALENOL(2 ISOMERS)
200.JA	ETHOXYBIPHENYL(2 ISOMERS)
50.JA	DIHYDROXYACETOPHENE
200.JA	QUINOLINONE
200.JA	METHYLQUINOLINONE(3 ISOMERS)
50.JA	DIBENZOTHIOPHENE
100.JA	QUINOLINOL
200.JA	DIBENZOFURANOL
500.JA	CARBAZOLE
100.JA	FLUORENANONE
100.JA	ACRIDINONE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9931 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROSS ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-5
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1520
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE RECEIVED DATE/TIME 10/11/85 1126 RECVD BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: HFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*B-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF M/
*L- L VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	PHENZIDINE
50U	UG/L	1,3-DICHLOROBENZENE
50U	UG/L	1,4-DICHLOROBENZENE
50U	UG/L	1,2-DICHLOROBENZENE
50U	UG/L	BIS(2-CHLOROETHYL) ETHER
50U	UG/L	HEXACHLOROETHANE
50U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
50U	UG/L	N-NITROSODI-N-PROPYLAMINE
50U	UG/L	NITROBENZENE
50U	UG/L	HEXACHLOROBUTADIENE
50U	UG/L	1,2,4-TRICHLOROBENZENE
760U	UG/L	NAPHTHALENE
50U	UG/L	BIS(2-CHLOROETHOXY) METHANE
50U	UG/L	ISOPHORONE
50U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
50U	UG/L	2-CHLORONAPHTHALENE
110	UG/L	ACENAPHTHYLENE
420	UG/L	ACENAPHTHENE
50U	UG/L	DIMETHYL PHTHALATE
50U	UG/L	2,4-DINITROTOLUENE
50U	UG/L	2,6-DINITROTOLUENE
50U	UG/L	4-CHLOROPHENYL PHENYL ETHER
190	UG/L	FLUORENE
50U	UG/L	DIETHYL PHTHALATE
50U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
50U	UG/L	HEXACHLOROBENZENE (HCB)
50U	UG/L	4-BROMOPHENYL PHENYL ETHER
210	UG/L	PHENANTHRENE
20J	UG/L	ANTHRACENE
50U	UG/L	DI-N-BUTYLPHTHALATE
38J	UG/L	FLUORANTHENE
25J	UG/L	PYRENE
50U	UG/L	BENZYL BUTYL PHTHALATE
50U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
5.2J	UG/L	BENZO(A)ANTHRACENE
50U	UG/L	CHRYSENE
50U	UG/L	3,3'-DICHLOROBENZIDINE
50U	UG/L	DI-N-OCTYLPHTHALATE
50U	UG/L	BENZO(B)FLUORANTHENE
50U	UG/L	BENZO(K)FLUORANTHENE
50U	UG/L	BENZO-A-PYRENE
50U	UG/L	INDENO (1,2,3-CD) PYRENE
50U	UG/L	DIBENZO(A,H)ANTHRACENE
50U	UG/L	BENZO(G,H,I)PERYLENE
50U	UG/L	2-CHLOROPHENOL
50U	UG/L	2-NITROPHENOL
50U	UG/L	PHENOL
3200	UG/L	2,4-DIMETHYLPHENOL
50U	UG/L	2,4-DICHLOROPHENOL
50U	UG/L	2,4,6-TRICHLOROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9936 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1100
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
100	UG/L	SILVER
300	UG/L	ARSENIC
NA	UG/L	BORON
240	UG/L	BARIUM
100	UG/L	BERYLLIUM
100	UG/L	CADMIUM
200	UG/L	COBALT
100	UG/L	CHROMIUM
100	UG/L	COPPER
200	UG/L	MOLYBDENUM
200	UG/L	NICKEL
300	UG/L	LEAD
500	UG/L	ANTIMONY
600	UG/L	SELENIUM
1000	UG/L	TIN
1900	UG/L	STRONTIUM
400	UG/L	TELLURIUM
200	UG/L	TITANIUM
NA	UG/L	THALLIUM
100	UG/L	VANADIUM
100	UG/L	YTTRIUM
200	UG/L	ZINC
NA	UG/L	ZIRCONIUM
NAI	UG/L	MERCURY
2800	UG/L	ALUMINUM
1800	UG/L	MANGANESE
150	MG/L	CALCIUM
200	MG/L	MAGNESIUM
0.3	MG/L	IRON
1200	MG/L	SODIUM
NA	MG/L	POTASSIUM

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/14/85

SPECIFIED ANALYSIS
WATER

SAMPLE NO.: BoC 9930 SAMPLE TYPE: NORML

PROJECT NO.: NB-003 PROGRAM ELEMENT: RCRA
SOURCE: Cross Reference
CITY: Bogue STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME OF 10/09/85 1545
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 10/11/85 1120 RECEIVED FROM: B. FERGUSON
SEALED: NO REC'D BY: D. COLQUITT

CHEMIST: TIS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP... DATA VERIFIED BY: RLO...

RELEASED

****

FOOTNOTE
*=AV= = VALUE *GA=NOT ANALYZED *QA1=INTERFERENCES
*=GS= *QA=QUALITY EVIDENCE OF PRESENCE OF *A
*=/ VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
44000	UG/L	PHENOL (4AAP)	32730

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9930 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROSS ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1545
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*E-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
47J	ACETONE
100U	METHYL ETHYL KETONE
6,6J	CARBON DISULFIDE
200	METHYL BUTYL KETONE
200	METHYL ISOBUTYL KETONE
2J	STYRENE
200	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
NA	FLUOROTRICHLOROMETHANE
5.0U	METHYLENE
90.0U	BENZOFORAN

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,P&G IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: BoC 9730 SAMPLE TYPE: NORMAL

PROJECT NO.: Bb-003 PROGRAM ELEMENT: RCRA
SOURCE: CHUCK ZELGENBACH
CITY: MOBILE STATE: AL

STATION I.D.: CX-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1545
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 10/11/85 1426 REC'D BY: D. CHEVRETT
SEALED: NO

CHEMIST: EPA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP SAMPLE DATA VERIFIED BY: RCD

REMARKS

****

EDITING CODES
*A-ABOVE 1% VALUE *NA-NOT ANALYZED *GAI-INTERFERENCES
*B-BELOW CRL VALUE *J-PRESUMPTIVE EVIDENCE OF PRESENCE OF MA
*K- K VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L- AT VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS	DETLS	CONPOUND
BA	UG/L	ACROLEIN
BA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
39	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
61	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
29	UG/L	ETHYL BENZENE
110	UG/L	TOTAL XYLENES

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD/REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 0936 SAMPLE TYPE: HOUWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1100
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED, THE NUMBER IS THE MINIMUM DETECTION LIMIT

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
40000	BENZOIC ACID
8700 J	2-METHYLPHENOL
5700 J	4-METHYLPHENOL
20000	2,4,5-TRICHLOROPHENOL
20000	ANILINE
40000	BENZYL ALCOHOL
20000	4-CHLOROANILINE
97000	DIBENZOFURAN
120000	2-METHYLNAPHTHALENE
20000	2-NITROANILINE
20000	3-NITROANILINE
20000	4-NITROANILINE
40000 J	1-METHYLNAPHTHALENE
50000 J	C2 ALKYLDIPHENYLENE
20000 J	BIPHENYL
30000 J	METHYLDIPHENYLS(2 ISOMERS)
50000 J	METHYLDIBENZOFURANS(2 ISOMERS)
20000 J	DIBENZOTHIOPHENE
20000 J	METHYLFLUORENE
50000 J	DIBENZOFURANONE
30000 J	CARBAZOLE
50000 J	PHENYLNAPHTHALENE
80000 J	METHYLPHENANTHRENE(2 ISOMERS)
40000 J	CYCLOPENTAPHENANTHRENE
100000 J	BENZONAPHTOFURAN
100000 J	METHYLFLUORANTHENE(3 ISOMERS)
10000 J	TRIPHENYLENE
10000 J	BENZO(GHI)PERYLENE
10000 J	METHYLBENZANTHRACENE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9936 SAMPLE TYPE: NORWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-4
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/10/85 1100
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MA
*< VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L AL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN

****ANALYTICAL RESULTS****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
20000	UG/L	1,3-DICHLOROBENZENE
20000	UG/L	1,4-DICHLOROBENZENE
20000	UG/L	1,2-DICHLOROBENZENE
20000	UG/L	BIS(2-CHLOROETHYL) ETHER
20000	UG/L	HEXACHLOROETHANE
20000	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
20000	UG/L	N-NITROSODI-N-PROPYLAMINE
20000	UG/L	NITROBENZENE
20000	UG/L	HEXACHLOROBUTADIENE
380000	UG/L	1,2,4-TRICHLOROBENZENE
20000	UG/L	NAPHTHALENE
20000	UG/L	BIS(2-CHLOROETHOXY) METHANE
20000	UG/L	ISOPHORONE
20000	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
2700	UG/L	2-CHLORONAPHTHALENE
140000	UG/L	ACENAPHTHYLENE
20000	UG/L	ACENAPHTHENE
20000	UG/L	DIMETHYL PHTHALATE
20000	UG/L	2,6-DINITROTOLUENE
20000	UG/L	4-CHLOROPHENYL PHENYL ETHER
140000	UG/L	FLUORENE
20000	UG/L	DIETHYL PHTHALATE
20000	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20000	UG/L	HEXACHLOROBENZENE (HCB)
20000	UG/L	4-BROMOPHENYL PHENYL ETHER
340000	UG/L	PHENANTHRENE
45000	UG/L	ANTHRACENE
20000	UG/L	DI-N-BUTYLPHTHALATE
190000	UG/L	FLUORANTHENE
140000	UG/L	PYRENE
20000	UG/L	BENZYL BUTYL PHTHALATE
20000	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
50000	UG/L	BENZO(A)ANTHRACENE
42000	UG/L	CHRYSENE
20000	UG/L	3,3'-DICHLOROBENZIDINE
20000	UG/L	DI-N-OCTYLPHTHALATE
38000	UG/L	BENZO(B) AND/OR BENZO(K)FLUORANTHENE
--	UG/L	BENZO(B) AND/OR BENZO(K)FLUORANTHENE
10000	UG/L	BENZO-A-PYRENE
10000	UG/L	INDENO (1,2,3-CD) PYRENE
20000	UG/L	DIBENZO(A,H)ANTHRACENE
6100	UG/L	BENZO(G,H,I)PERYLENE
20000	UG/L	2-CHLORONAPHTHOL
20000	UG/L	2-NITROPHENOL
20000	UG/L	PHENOL
8400	UG/L	2,4-DIMETHYLPHENOL
20000	UG/L	2,4-DICHLOROPHENOL
20000	UG/L	2,4,6-TRICHLOROPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: MONAL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROSS ZELLERBACH
CITY: MOBILE STATE: AL
STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 00/00/00 1126 RECEIVED FROM: B. FERGUSON
SEALED: NO REC'D BY: D. COLQUITT

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: MFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*B-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
100	UG/L	SILVER
300	UG/L	ARSENIC
NA	UG/L	BORON
97	UG/L	BARIUM
100	UG/L	BERYLLIUM
100	UG/L	CADMIUM
200	UG/L	COBALT
100	UG/L	CHROMIUM
100	UG/L	COPPER
200	UG/L	MOLYBDENUM
200	UG/L	NICKEL
300	UG/L	LEAD
300	UG/L	ANTIMONY
400	UG/L	SELENIUM
1000	UG/L	TIN
200	UG/L	STRONTIUM
400	UG/L	TELLURIUM
100	UG/L	TITANIUM
NA	UG/L	THALLIUM
100	UG/L	VANADIUM
100	UG/L	YTTRIUM
100	UG/L	ZINC
NA	UG/L	ZIRCONIUM
0.20	UG/L	MERCURY
7500	UG/L	ALUMINUM
340	UG/L	MANGANESE
92	UG/L	CALCIUM
14	UG/L	MAGNESIUM
5.3	UG/L	IRON
110	UG/L	SODIUM
NA	UG/L	POTASSIUM

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: 86C 9429 SAMPLE TYPE: GRAB

PROJECT NO.: 86-004 PROGRAM ELEMENT: RCRA
SOURCE: CHEM-TRONICS
CITY: MOBILE STATE: AL

STATION I.D.: CX-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00.

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE RECD: DATE/TIME 00/00/00 1126 RECD BY: D. COLQUITT
SEALED: NO

CHEMIST: TIS CHECKED:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: JFP DATA VERIFIED BY: RLQ

REMARKS

****

FOOTNOTES
* = MAJOR **DATA NOT ANALYZED ***CAL-INTERFERENCES
E = VALUES NJ=PRESUMPTIVE EVIDENCE OF PRESENCE OF M
B = VALUE IS FROM BLANK

ANALYTICAL RESULTS

RESULTS	UNITS	PARAMETER	STORET
9400	UG/L	PHENOL (MAAP)	32730

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS, GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: R6C 9429 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CP-ISR ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 00/00/00 1126 RECEIVED FROM: B. FERGUSON
SEALED: NO RECD BY: D. COLQUITT

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: MFP DATA VERIFIED BY: MCD

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*E-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
28J	ACETONE
45J	METHYL ETHYL KETONE
200	CARBON DISULFIDE
200	METHYL BUTYL KETONE
200	METHYL ISOBUTYL KETONE
3J	STYRENE
200	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
6J	TRICHLOROFLUOROMETHANE
4.3B	METHYLENE CHLORIDE
100.U	BENZOFURAN

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85

PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: B6C 9929 SAMPLE TYPE: NORMAL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CP-24W ZELLERBACH
CITY: MOBILE STATE: AL
STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 00/00/00 1126 REC'D BY: D. CHLOUITT
SEALED: NO

CHEMIST: EPA
ANALYTICAL METHOD:

RECEIVED FROM: D. FERGUSON

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP SAMPLE DATA VERIFIED BY: WCH

REMARKS

****

LEGEND
*A-NAME VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-EST U-VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MAT
**-NO VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
0.70	UG/L	CHLOROETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROMETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
40	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
50	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
79	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
50	UG/L	TOLUENE
36	UG/L	CHLOROBENZENE
120	UG/L	ETHYL BENZENE
	UG/L	TOTAL XYLENES

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85 EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: B6C 9929 SAMPLE TYPE: MONWL

PROJECT NO.: B6-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 00/00/00 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WEP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
40000	BENZOIC ACID
1100	2-METHYLPHENOL
2200	4-METHYLPHENOL
20000	2,4,5-TRICHLOROPHENOL
26000	ANILINE
20000	BENZYL ALCOHOL
98000	4-CHLOROANILINE
3200	DIBENZOFURAN
4400	2-METHYL NAPHTHALENE
40000	2-NITROANILINE
30000	3-NITROANILINE
40000	4-NITROANILINE
3000JD	C2 ALKYLPHENOL(NOT 2,4-DIMETHYL)(2 ISOMERS)
800JD	C3 ALKYLPHENOL
1900JN	1-METHYLNAPHTHALENE
5200JN	C2 ALKYLNAPHTHALENE
200JD	DIMETHYLPHENOL
700JD	BIPHENYL
200JD	DIMETHYLNAPHTHALENE
800JD	METHYLDIBENZOFURAN
200JD	METHYLBIPHENYL
400JD	DIHYDROANTHRACENE
1000JD	QUINOLINE
1000JD	DIBENZOTHIOPHENE
1000JD	CARBAZOLE
3000JD	METHYLPHENANTHRENE(2 ISOMERS)
2000JD	CYCLOPENTAPHENANTHRENE
500JD	PHENYLNAPHTHALENE
2000JD	METHYLPHENANTHRENE(2 ISOMERS)

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA--SD,REG IV
ATHENS GEORGIA

12/09/85

EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: B6C 9929 SAMPLE TYPE: NORWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CLOWN ZEIGERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY:
SAMPLE REC'D: DATE/TIME 00/00/00 1126 RECEIVED FROM: B. FERGUSON
SEALED: NO REC'D BY: D. COLQUITT

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*J-ES ED VALUE *NA-NOT ANALYZED KNAI-INTERFERENCES

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
20000	UG/L	1,3-DICHLOROBENZENE
20000	UG/L	1,4-DICHLOROBENZENE
20000	UG/L	1,2-DICHLOROBENZENE
20000	UG/L	BIS(2-CHLOROETHYL) ETHER
20000	UG/L	BENZYL ALCOHOL
20000	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
20000	UG/L	N-NITROSODI-N-PROPYLAMINE
20000	UG/L	NITROBENZENE
20000	UG/L	HEXACHLOROETHANE
20000	UG/L	1,2,4-TRICHLOROBENZENE
18000	UG/L	NAPHTHALENE
20000	UG/L	BIS(2-CHLOROETHOXY) METHANE
20000	UG/L	ISOPHORONE
20000	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
20000	UG/L	2-CHLORONAPHTHALENE
4600	UG/L	ACENAPHTHYLENE
20000	UG/L	ACENAPHTHENE
20000	UG/L	DIMETHYL PHTHALATE
20000	UG/L	2,4-DINITROTOLUENE
20000	UG/L	2,6-DINITROTOLUENE
20000	UG/L	4-CHLOROPHENYL PHENYL ETHER
4400	UG/L	FLUORENE
20000	UG/L	DIETHYL PHTHALATE
20000	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20000	UG/L	HEXACHLOROBENZENE (HCB)
20000	UG/L	4-BROMOPHENYL PHENYL ETHER
10000	UG/L	PHENANTHRENE
1300J	UG/L	ANTHRACENE
20000	UG/L	DI-N-BUTYLPHTHALATE
5700	UG/L	FLUORANTHENE
4000	UG/L	PYRENE
20000	UG/L	BENZYL BUTYL PHTHALATE
20000	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
1400J	UG/L	BENZO(A)ANTHRACENE
1900J	UG/L	CHRYSENE
20000	UG/L	3,3'-DICHLOROBENZIDINE
20000	UG/L	DI-N-OCTYLPHTHALATE
1300J	UG/L	BENZO(B)FLUORANTHENE
--	UG/L	BENZO(K)FLUORANTHENE
450J	UG/L	BENZO-A-PYRENE
20000	UG/L	INDENO(1,2,3-CD) PYRENE
20000	UG/L	DIBENZO(A,H)ANTHRACENE
20000	UG/L	BENZO(G,H,I)PERYLENE
20000	UG/L	2-CHLOROPHENOL
20000	UG/L	2-NITROPHENOL
20000	UG/L	PHENOL
6100	UG/L	[illegible]

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85

EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9929 SAMPLE TYPE: NORML

PROJECT NO.: 86-003
SOURCE: CHEVRON ZELLERBACH PROGRAM ELEMENT: RCRA
CITY: MOBILE STATE: AL
STATION I.D.: CZ-3
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1220
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00
COLLECTED BY:
SAMPLE RECVD: DATE/TIME 00/00/00 1426 RECVD BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP - DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*K-ACTUAL VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*L-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED ..... GREATER THAN VALU...

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	ANILINE
20000	UG/L	1,3-DICHLOROBENZENE
20000	UG/L	1,4-DICHLOROBENZENE
20000	UG/L	1,2-DICHLOROBENZENE
20000	UG/L	BIS(2-CHLOROETHYL) ETHER
20000	UG/L	HEXACHLOROETHANE
20000	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
20000	UG/L	N-NITROSODI-N-PROPYLAMINE
20000	UG/L	NITROBENZENE
20000	UG/L	HEXACHLOROBUTADIENE
14000	UG/L	1,2,4-TRICHLOROBENZENE
20000	UG/L	NAPHTHALENE
20000	UG/L	BIS(2-CHLOROETHOXY) METHANE
20000	UG/L	ISOPHORONE
20000	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
20000	UG/L	2-CHLORONAPHTHALENE
4600	UG/L	ACENAPHTHYLENE
20000	UG/L	ACENAPHTHENE
20000	UG/L	DIBENZOFURAN
20000	UG/L	2,6-DINITROTOLUENE
20000	UG/L	2,4-DINITROTOLUENE
4400	UG/L	4-CHLOROPHENYL PHENYL ETHER
20000	UG/L	FLUORENE
20000	UG/L	DIETHYL PHTHALATE
20000	UG/L	4-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20000	UG/L	HEXACHLOROBENZENE (HCB)
10000	UG/L	4-BROMOPHENYL PHENYL ETHER
11000	UG/L	PHENANTHRENE
20000	UG/L	ANTHRACENE
5700	UG/L	DI-N-BUTYLPHTHALATE
4000	UG/L	FLUORANTHENE
20000	UG/L	PYRENE
20000	UG/L	BENZYL BUTYL PHTHALATE
1400J	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
1200J	UG/L	BENZO(A)ANTHRACENE
20000	UG/L	CHRYSENE
20000	UG/L	3,3'-DICHLOROBENZIDINE
1100J	UG/L	DI-N-OCTYLPHTHALATE
--	UG/L	BENZO(B) AND/OR BENZO(K)FLUORANTHENE
450J	UG/L	BENZO(K) AND/OR BENZO(B)FLUORANTHENE
20000	UG/L	BENZO-A-PYRENE
20000	UG/L	INDENO (1,2,3-CD) PYRENE
20000	UG/L	DIBENZO(A,H)ANTHRACENE
20000	UG/L	BENZO(G,H,I)PERYLENE
20000	UG/L	2-CHLORONAPHTHALENE
20000	UG/L	2-NITROPHENOL
6100	UG/L	PHENOL
20000	UG/L	2,4-DIMETHYLPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: H6C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003
SOURCE: CROWN ZELLERBACH PROGRAM ELEMENT: RCRA
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STUPET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON
SAMPLE RECVD: DATE/TIME 10/11/85 1126 RECVD FROM: B. FERGUSON
SEALED: NO RECVD BY: D. COLQUITT

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
100	UG/L	SILVER
300	UG/L	ARSENIC
NA	UG/L	BORON
78	UG/L	BARIUM
100	UG/L	BERYLLIUM
100	UG/L	CADMIUM
62	UG/L	COBALT
100	UG/L	CHROMIUM
100	UG/L	COPPER
200	UG/L	MOLYBDENUM
200	UG/L	NICKEL
300	UG/L	LEAD
300	UG/L	ANTIMONY
400	UG/L	SELENIUM
1000	UG/L	TIN
98	UG/L	STRONTIUM
400	UG/L	TELLURIUM
15	UG/L	TITANIUM
NA	UG/L	THALLIUM
100	UG/L	VANADIUM
100	UG/L	YTTRIUM
14	UG/L	ZINC
NA	UG/L	ZIRCONIUM
0.20	UG/L	MERCURY
1000	UG/L	ALUMINUM
190	UG/L	MANGANESE
6.2	MG/L	CALCIUM
7.2	MG/L	MAGNESIUM
1.7	MG/L	IRON
56	MG/L	SODIUM
NA	MG/L	POTASSIUM

****

***FOOTNOTES
*A-AVER
*E-ESTI
*M-ACTU
VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*P-PRESUMPTIVE EVIDENCE OF

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS, GEORGIA

11/14/85 SPECIFIED ANALYSIS
WATER

SAMPLE NO.: BoC 9928 SAMPLE TYPE: NORWL

PROJECT NO.: dp-003 PROGRAM ELEMENT: RCRA
SOURCE: Cross Creek
CITY: Dublin STATE: GA

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1120 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: PJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFR DATA VERIFIED BY: RLO

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
3B	UG/L	PHENOL (GAAP)	32730

****

=OUTLIERS.*
*A=AVERAGE VALUE *UA=NOT ANALYZED *BAT=INTERFERENCES
*E=ESTIMATED VALUE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: B6C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: B6-003 PROGRAM ELEMENT: RCRA
SOURCE: CRANK ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STREET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: RFP DATA VERIFIED BY: MCD

REMARKS

****

FOOTNOTE
*A-AVE VALUE *NA-NOT ANALYZED

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
100U	ACETONE
100U	METHYL ETHYL KETONE
200	CARBON DISULFIDE
200	METHYL BUTYL KETONE
200	METHYL ISOBUTYL KETONE
200	STYRENE
200	VINYL ACETATE
UA	DICHLORODIFLUOROMETHANE
UA	TRICHLOROFLUOROMETHANE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD/REC IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: BoC 992R SAMPLE TYPE: NORMAL

PROJECT NO.: BO-003 PROGRAM ELEMENT: RCRA
SOURCE: CHEM ZELLERBACH
CITY: SOMERVILLE STATE: NJ
STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: D. FERGUSON RECEIVED FROM: D. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1426 REC'D BY: D. GOLDWITT
SEALED: NO

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: MFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROMETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHYLENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHENE(TRICHLOROETHYLENE)
50	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
50	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
50	UG/L	ETHYL BENZENE
50	UG/L	TOTAL XYLENES

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85

EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: R6-003
SOURCE: CROWN ZELLERBACH PROGRAM ELEMENT: RCRA
CITY: MOBILE STATE: AL

STATION I.D.: CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1120 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JHS

REMARKS

****

FOOTNOTES
*A-AVE. VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-EST. VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MAT
*N-AC. VALUE IS KNOWN TO BE LESS THAN
*L-AC.

*****ANALYTICAL RESULTS*****

RESULTS	UNITS: UG/L	COMPOUND NAME
200		BENZOIC ACID
100		2-METHYLPHENOL
100		4-METHYLPHENOL
100		2,4,5-TRICHLOROPHENOL
100		ANILINE
100		BENZYL ALCOHOL
200		4-CHLOROANILINE
400		DIBENZOFURAN
100		2-METHYLNAPHTHALENE
700		2-NITROANILINE
100		3-NITROANILINE
100		4-NITROANILINE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD,REG IV
ATHENS GEORGIA

12/09/85

EXTRACTABLE ORGANIC ANALYSIS
WATER

SAMPLE NO.: 86C 9928 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROWN ZELLERBACH
CITY: MOBILE STATE: AL
STATION I.D. : CZ-2
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1000
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00.
COLLECTED BY: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1126 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST: DGR
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: NFP DATA VERIFIED BY: JMS

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*E-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	N-NITROSODIMETHYLAMINE
NA	UG/L	1,2-DIPHENYLHYDRAZINE/AZOBENZENE
NA	UG/L	BENZIDINE
10U	UG/L	1,3-DICHLOROBENZENE
10U	UG/L	1,4-DICHLOROBENZENE
10U	UG/L	1,2-DICHLOROBENZENE
10U	UG/L	BIS(2-CHLOROETHYL) ETHER
10U	UG/L	HEXACHLOROETHANE
10U	UG/L	BIS(2-CHLOROISOPROPYL) ETHER
10U	UG/L	N-NITROSODI-N-PROPYLAMINE
10U	UG/L	NITROBENZENE
10U	UG/L	HEXACHLOROBUTADIENE
10U	UG/L	1,2,4-TRICHLOROBENZENE
10U	UG/L	NAPHTHALENE
10U	UG/L	BIS(2-CHLOROETHOXY) METHANE
10U	UG/L	ISOPHORONE
10U	UG/L	HEXACHLOROCYCLOPENTADIENE (HCCP)
10U	UG/L	2-CHLORONAPHTHALENE
10U	UG/L	ACENAPHTHYLENE
10U	UG/L	ACENAPHTHENE
10U	UG/L	DIMETHYL PHTHALATE
10U	UG/L	2,4-DINITROTOLUENE
10U	UG/L	2,6-DINITROTOLUENE
10U	UG/L	4-CHLOROPHENYL PHENYL ETHER
10U	UG/L	FLUORENE
10U	UG/L	DIETHYL PHTHALATE
10U	UG/L	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
10U	UG/L	HEXACHLOROBENZENE (HCB)
10U	UG/L	4-BROMOPHENYL PHENYL ETHER
10U	UG/L	PHENANTHRENE
10U	UG/L	ANTHRACENE
10U	UG/L	DI-N-BUTYLPHTHALATE
10U	UG/L	FLUORANTHENE
10U	UG/L	PYRENE
10U	UG/L	BENZYL BUTYL PHTHALATE
10U	UG/L	BIS(2-ETHYLHEXYL) PHTHALATE
10U	UG/L	BENZO(A)ANTHRACENE
10U	UG/L	CHRYSENE
10U	UG/L	3,3'-DICHLOROBENZIDINE
10U	UG/L	DI-N-OCTYLPHTHALATE
10U	UG/L	BENZO(B) AND/OR BENZO(K)FLUORANTHENE
10U	UG/L	BENZO(A) AND/OR BENZO(K)FLUORANTHENE
10U	UG/L	BENZO-A-PYRENE
10U	UG/L	INDENO (1,2,3-CD) PYRENE
10U	UG/L	DIBENZO(A,H)ANTHRACENE
10U	UG/L	BENZO(G,H,I)PERYLENE
10U	UG/L	2-CHLOROPHENOL
10U	UG/L	2-NITROPHENOL
10U	UG/L	PHENOL
10U	UG/L	2,4-DIMETHYLPHENOL

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD/REG IV
ATHENS GEORGIA

12/05/85

METALS
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: NORML

PROJECT NO.: 86-003
SOURCE: CROWN ZELLERBACH PROGRAM ELEMENT: RCRA
CITY: MOBILE STATE: AL
STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON RECEIVED FROM: B. FERGUSON
SAMPLE RECD: DATE/TIME 10/11/85 1126 RECD BY: D. COLQUITT
SEALED: NO

CHEMIST: MAW
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP SAMPLE DATA VERIFIED BY: MAW

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
10U	UG/L	CADMIUM
30U	UG/L	SILVER
NA	UG/L	ARSENIC
50	UG/L	MERCURY
100	UG/L	BARIUM
10U	UG/L	BERYLLIUM
20U	UG/L	CADMIUM
40U	UG/L	COBALT
10U	UG/L	CHROMIUM
20U	UG/L	COPPER
20U	UG/L	MOLYBDENUM
30U	UG/L	NICKEL
30U	UG/L	LEAD
40U	UG/L	ANTIMONY
100U	UG/L	SELENIUM
17U	UG/L	TIN
40U	UG/L	STRONTIUM
10U	UG/L	TELLURIUM
NA	UG/L	TITANIUM
10U	UG/L	THALLIUM
10U	UG/L	VANADIUM
10U	UG/L	YTTRIUM
NA	UG/L	ZINC
0.2U	UG/L	ZIRCONIUM
240	UG/L	MERCURY
6R0	UG/L	ALUMINUM
18	UG/L	MANGANESE
16	MG/L	CALCIUM
12	MG/L	MAGNESIUM
76	MG/L	IRON
NA	MG/L	SODIUM
	MG/L	POTASSIUM

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD/REG IV
ATHENS GEORGIA

11/14/85

SPECIFIED ANALYSIS
--EATER

SAMPLE NO.: R&C 9923 SAMPLE TYPE: RDUWL

PROJECT NO.: SD-003
SOURCE: Other ZELLERBACH PROGRAM ELEMENT: RCRA
CITY: RUSTON STATE: AL
STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: D. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1125 RECEIVED FROM: B. FERGUSON
SEALED: NO REC'D BY: D. COLQUITT

CHEMIST: TJS CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: HEP DATA VERIFIED BY: RLQ

REMARKS

****

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*E-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED, BUT NOT DETECTED

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	PARAMETER	STORET
28J	UG/L	PHENOL (4AAP)	32730

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

11/06/85 PURGEABLE ORGANICS ANALYSIS, MISC
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003
SOURCE: CROWN ZELLERBACH PROGRAM ELEMENT: RCRA
CITY: MOBILE
STATE: AL
STATION I.D.: CZ-1
SIGRET STATION NO.:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1405
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON
SAMPLE REC'D: DATE/TIME 10/11/85 1120 REC'D BY: D. COLQUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS IN: UG/L	COMPOUND NAME
100U	ACETONE
100U	METHYLETHYL KETONE
20U	CARBON DISULFIDE
20U	METHYL BUTYL KETONE
20U	METHYL ISOBUTYL KETONE
20U	STYRENE
NA	VINYL ACETATE
NA	DICHLORODIFLUOROMETHANE
	FLUOROTRICHLOROMETHANE

****

FOOTNOTE
*A-AVER *NA-NOT ANALYZED *NAL-INTERFERENCES
*I-ESTI *U-PRESUMPTIVE EVIDENCE OF
*N-AV VALUE
*B-AC VALUE IS KNOWN TO BE

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD-REG IV
ATHENS GEORGIA

10/06/85

PURGEABLE ORGANICS ANALYSIS
WATER

SAMPLE NO.: 86C 9927 SAMPLE TYPE: NORML

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CROSS ZELLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON
SAMPLE RECVD: DATE/TIME 10/11/85 1126 RECEIVED FROM: B. FERGUSON
SEALED: NO RECVD BY: D. CHLOUITT

CHEMIST: FRA
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: HFP SAMPLE DATA VERIFIED BY: MCD

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	UNITS	COMPOUND
NA	UG/L	ACROLEIN
NA	UG/L	ACRYLONITRILE
50	UG/L	CHLOROETHANE
50	UG/L	BROMOMETHANE
50	UG/L	VINYL CHLORIDE
50	UG/L	CHLOROMETHANE
50	UG/L	METHYLENE CHLORIDE
50	UG/L	1,1-DICHLOROETHYLENE(1,1-DICHLOROETHYLENE)
50	UG/L	1,1-DICHLOROETHANE
50	UG/L	TRANS-1,2-DICHLOROETHENE
50	UG/L	CHLOROFORM
50	UG/L	1,2-DICHLOROMETHANE
50	UG/L	1,1,1-TRICHLOROETHANE
50	UG/L	CARBON TETRACHLORIDE
50	UG/L	BROMODICHLOROMETHANE
50	UG/L	1,2-DICHLOROPROPANE
50	UG/L	TRANS-1,3-DICHLOROPROPENE
50	UG/L	TRICHLOROETHYLENE(TRICHLOROETHYLENE)
50	UG/L	BENZENE
50	UG/L	DIBROMOCHLOROMETHANE
50	UG/L	1,1,2-TRICHLOROETHANE
50	UG/L	CIS-1,3-DICHLOROPROPENE
50	UG/L	2-CHLOROETHYLVINYL ETHER
50	UG/L	BROMOFORM
50	UG/L	1,1,2,2-TETRACHLOROETHANE
50	UG/L	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
50	UG/L	TOLUENE
50	UG/L	CHLOROBENZENE
50	UG/L	ETHYL BENZENE
50	UG/L	TOTAL XYLENES

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES
*J-ESTIMATED VALUE *P-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*G-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-ESD, REG IV
ATHENS GEORGIA

12/09/85

EXTRACTABLE ORGANIC ANALYSIS, MISC
WATER

SAMPLE NO.: B6C 9927 SAMPLE TYPE: MONWL

PROJECT NO.: 86-003 PROGRAM ELEMENT: RCRA
SOURCE: CHEMO ZEIGLERBACH
CITY: MOBILE STATE: AL

STATION I.D.: CZ-1
STORET STATION NO:

SAMPLE COLLECTION: START DATE/TIME 10/09/85 1105
SAMPLE COLLECTION: STOP DATE/TIME 00/00/00

COLLECTED BY: B. FERGUSON
SAMPLE RECD: DATE/TIME 10/11/85 1126 RECD BY: D. CHLOUITT
SEALED: NO

CHEMIST:
ANALYTICAL METHOD:

REMARK:
REMARK:

SAMPLE LOG VERIFIED BY: WFP DATA VERIFIED BY: JMS

REMARKS

*****ANALYTICAL RESULTS*****

RESULTS	U: UG/L	COMPOUND NAME
230		BENZOIC ACID
120	U	2-METHYLPHENOL
120	U	4-METHYLPHENOL
120	U	2,4,5-TRICHLOROPHENOL
120	U	ANILINE
120	U	BENZYL ALCOHOL
230	U	4-CHLOROANILINE
120	U	DIBENZOFURAN
120	U	2-METHYLNAPHTHALENE
120	U	2-NITROANILINE
120	U	3-NITROANILINE
120	U	4-NITROANILINE
70.0	J	CAPROLACTAM

****

***FOOTNOTE
*A-AVER
*J-EST
*K-[illegible]
ALGE
VALUE
*NA-NOT ANALYZED
*U-[illegible]
*NAI-INTERF[illegible]

ATTACHMENT O

BORING LOG

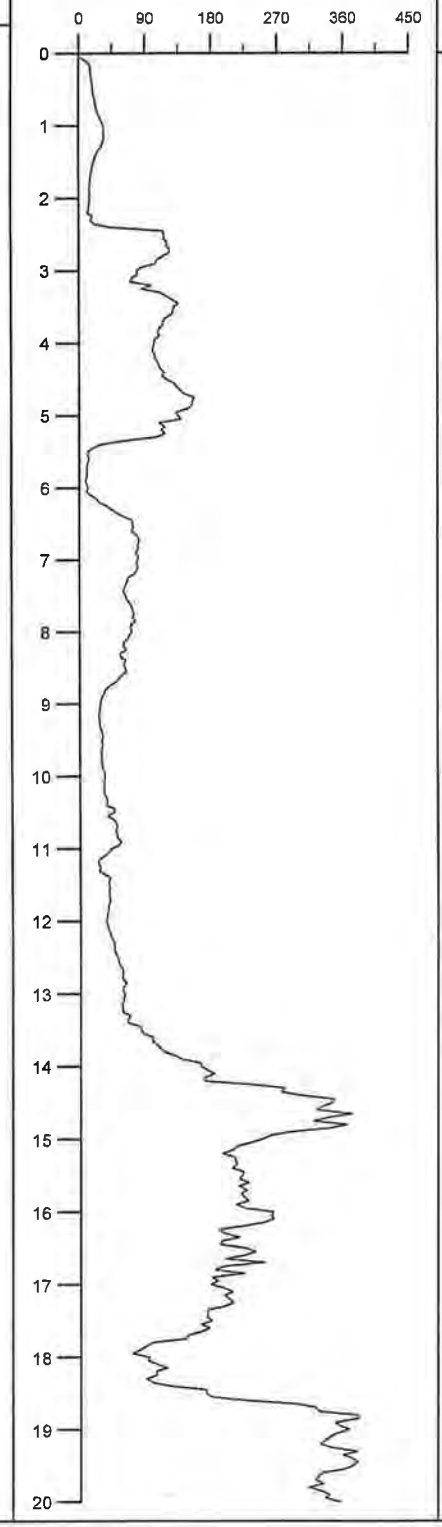
Project No.:	CFI	Northing:	129.65	Geologist:	DS
Project:	Mobile	Easting:	-142.83	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.52	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

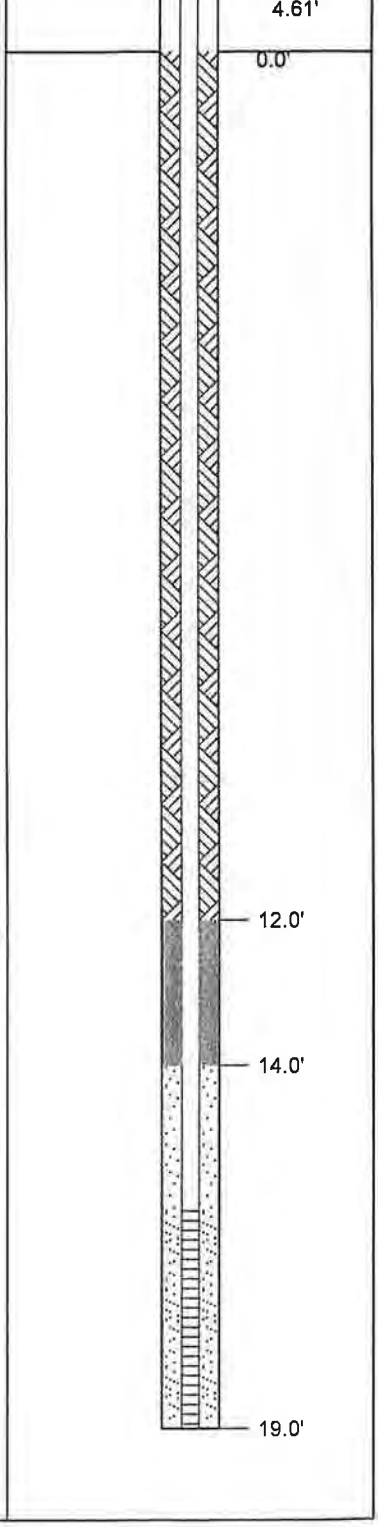
Page: 1 of 2

Boring No.: AS-1

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		100% Recovery		
1		Dark Brown loam (Topsoil) - with roots	AS-1-2.0	0
2		Orange medium to coarse sand (SW)		
3		Medium light grey clay (CH) - with orange and red striations		
5				
6		Orange coarse sand (SW) - with light tan sand lenses - moist	AS-1-6.5	0
7		Dark brown to black clay with sand and gravel (CL) - with organic matter - with moderate to strong odor		
8		Dark brown to black clayey sand (SC) - with orange and light grey clay lenses	AS-1-9.5	0
9		Light grey and orange sandy clay (CL) - with tan sand lenses		
10		Light brown medium to coarse sand with gravel (SW) - with black spots - with moderate odor 70% Recovery Light brown to grey sand (SP) - with moderate odor and sheen - with green and orange clay lenses	AS-1-14	
14		Orange to black sandy clay with gravel (CL) - Strong odor		
16		Orange to dark grey gravelly sand (SW-GP) - with strong odor - with clay lenses	AS-1-17	
19				
20				





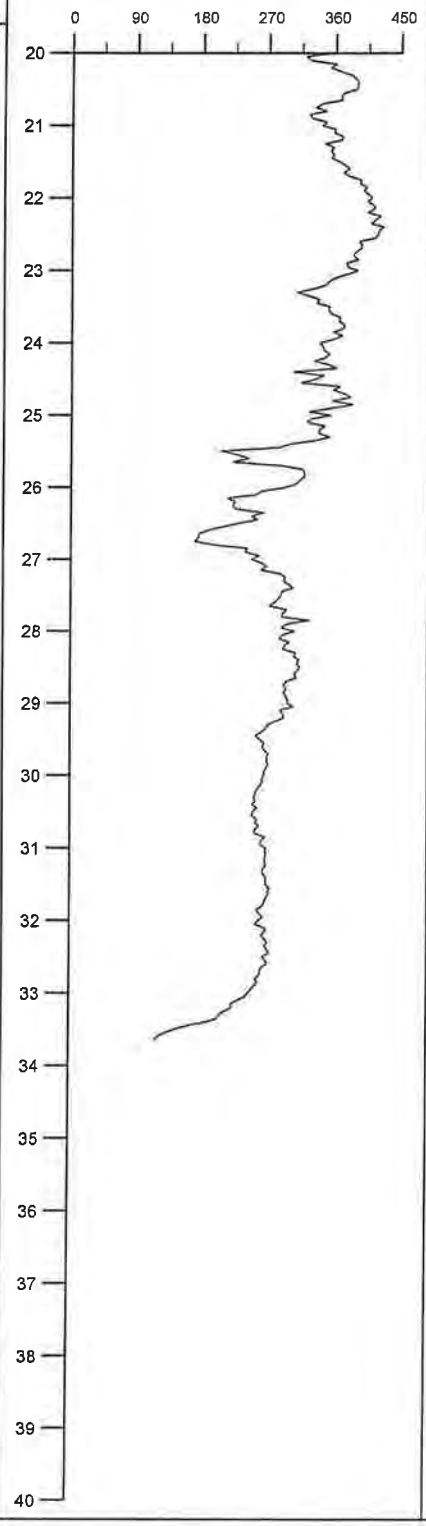
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT GDT 6/2/03

Project No.:	CFI	Northing:	129.65	Geologist:	DS
Project:	Mobile	Easting:	-142.83	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.52	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Boring No.: AS-1

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20–24		Soft dark grey to dark brown silty clay (CL) - with organic matter - with sheen and odor	AS-1-22	4		
24		End of boring				



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	41.92	Geologist:	DS
Project:	Mobile	Easting:	-117.44	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	14.77	Driller:	JG
Date:	5-17-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Page: 1 of 2

Boring No.: AS-2

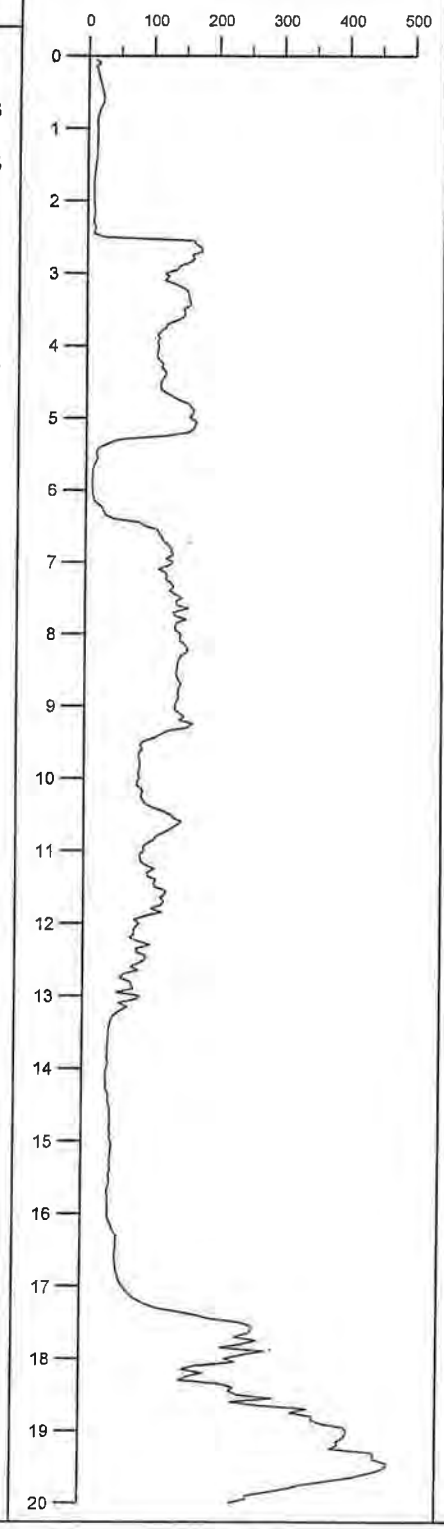
ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

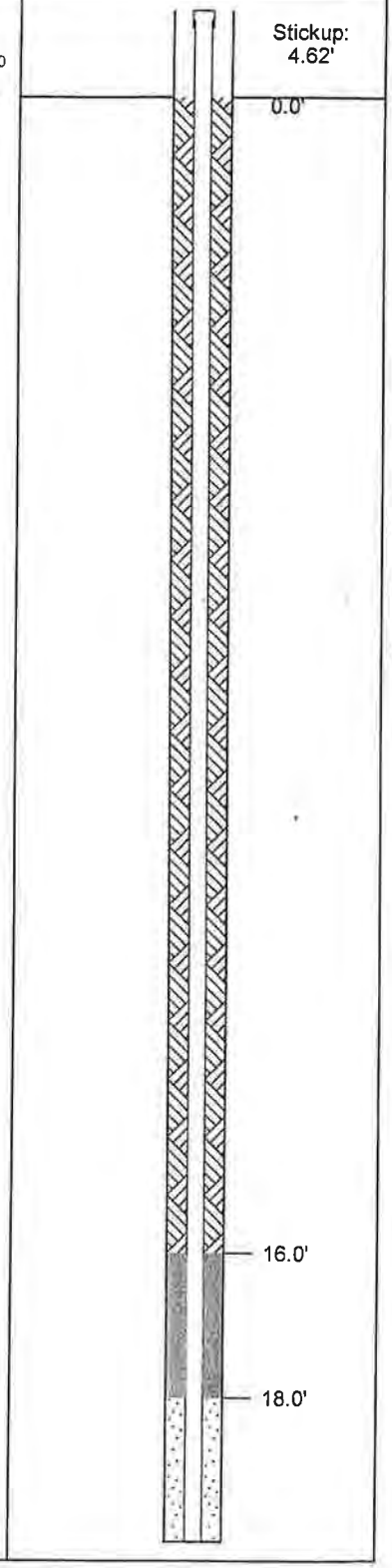
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
1		70% Recovery Dark brown silty loam (Topsoil)		0.3
			AS-2-2	0.5
2		Orange medium to coarse sand (SW)		
3				
4		100% Recovery Light grey and orange clay (CH) - with red mottles		0.3
5		Light grey clay (CL) - with orange sand lenses		
6				0.2
		Medium to coarse orange sand (SW) - with odor	AS-2-7.5	0.1
7				
8		Dark brown to black sandy clay (CL) - with organics and strong odor		
9				0.6
			AS-2-10	0.2
10				
11		Dark brown to black clayey sand (SC) - with very strong odor		0.1
			AS-2-12	0
12		75% Recovery Black silty fine sand (SP-SM) - with strong odor and organics		
13				
14		Light brown medium to coarse sand (SW) - with slight odor - with orange and black mottles		
15				
16		75% Recovery Light brown fine sand (SP) - with black and orange mottles	AS-2-17	0
17		Black sandy clay with gravel (CL) - with organics		
18				
19		Light brown clay with gravel (CL)		
20			AS-2-20	

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	41.92	Geologist:	DS
Project:	Mobile	Easting:	-117.44	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	14.77	Driller:	JG
Date:	5-17-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Boring No.: AS-2

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20		80% Recovery Black clayey coarse sand with gravel (SC)		3	0 100 200 300 400 500	
21						
22		Light brown fine gravel with sand (GP) - with odor		2.9		
23		Black clay with gravel (CL) - with organics		1.8		23.0'
24		End of boring				
25–40						

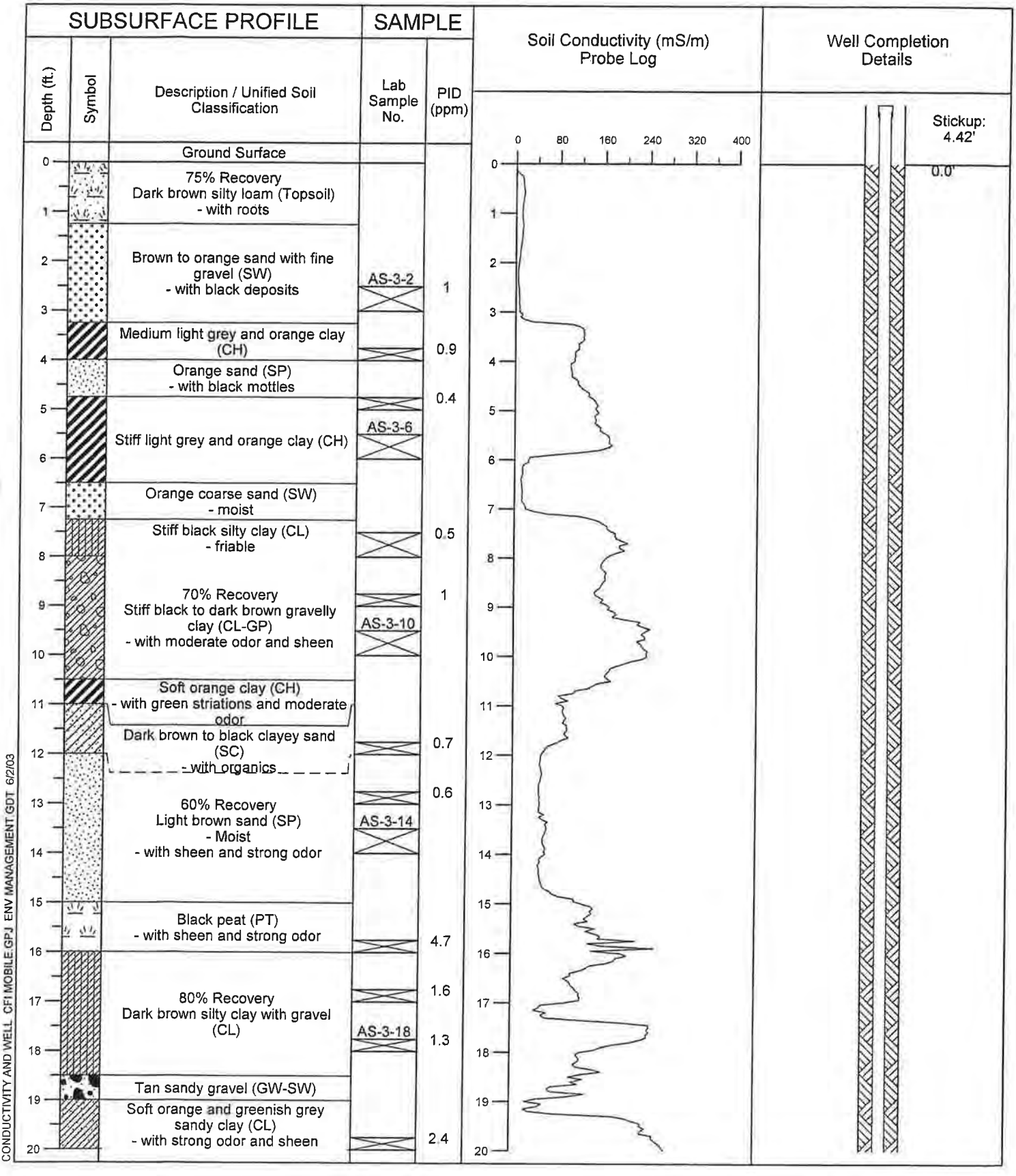
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-78.98	Geologist:	DS
Project:	Mobile	Easting:	-100.96	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	13.14	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Page: 1 of 2

Boring No.: AS-3

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-78.98	Geologist:	DS
Project:	Mobile	Easting:	-100.96	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	13.14	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Page: 2 of 2

Boring No.: AS-3

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

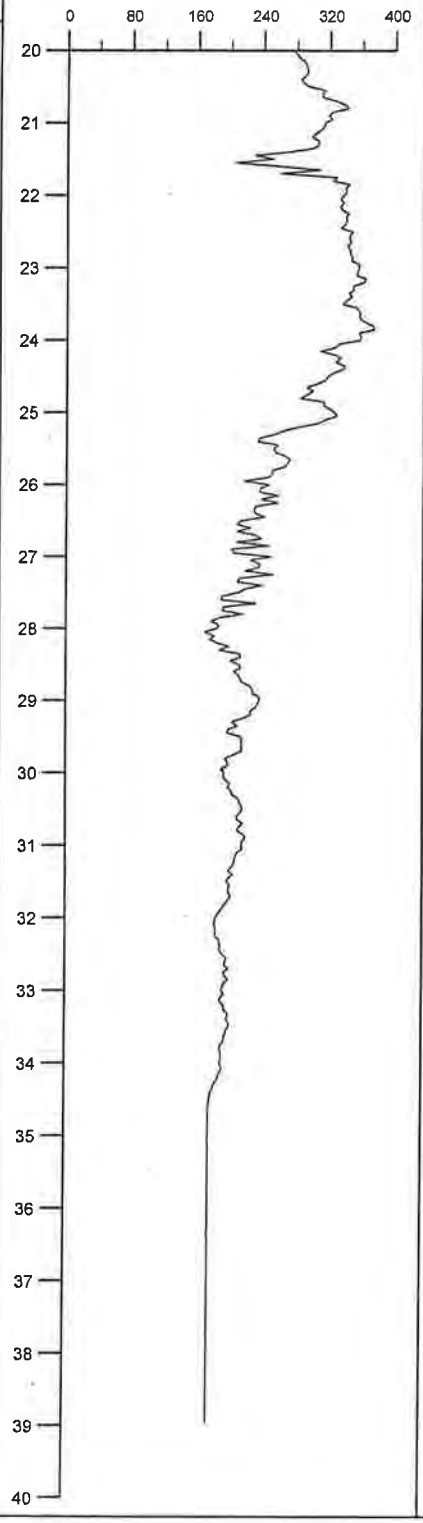
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification
20		- with organics
		Soft greenish grey clay (CH)
		- Moderate odor
21		- Black striations
22		Black clay with peat (CL)
		- Strong odor and sheen
23		- Very strong odor 22.5' to24'
24		End of boring

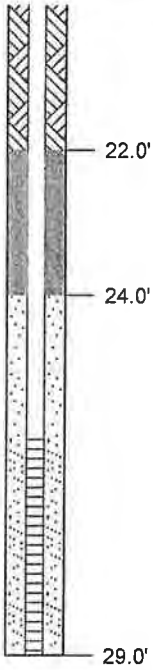
SAMPLE

Lab Sample No.	PID (ppm)
	1.4
AS-3-22.5	7.7
	4.0

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	115.35	Geologist:	DS
Project:	Mobile	Easting:	-56.86	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.68	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Page: 1 of 2

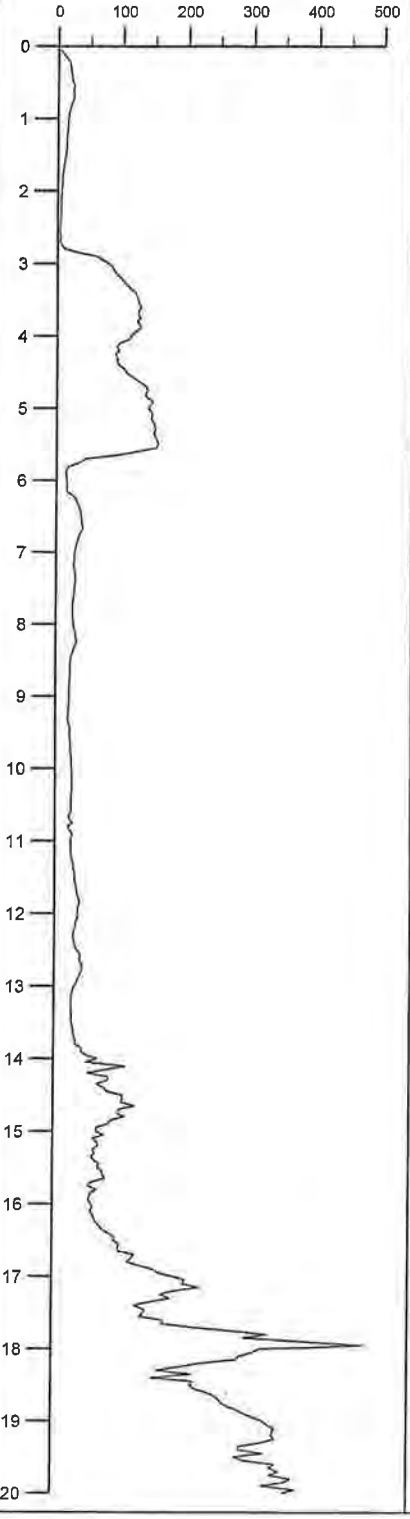
Boring No.: AS-4

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

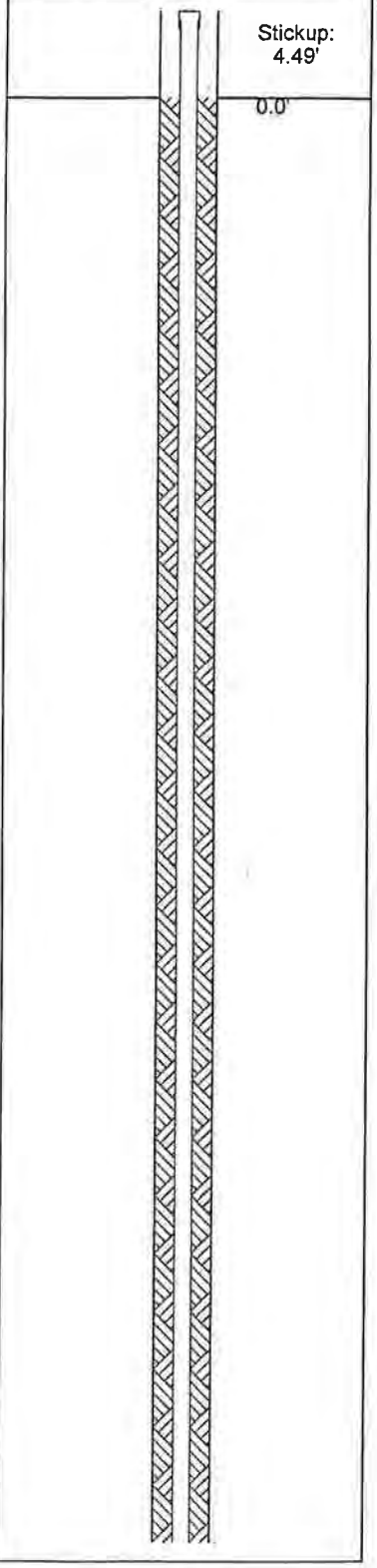
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		100% Recovery Dark brown silty loam (Topsoil)		
1			AS-4-2	0
2		Orange medium to coarse sand with gravel (SW)		
3		Stiff light grey and orange clay (CH)		0
4		Orange medium to coarse sand (SW) - Black from 5' to 6' - Slight odor		0
5			AS-4-6	0
6		Medium light grey and orange clay (CH)		
8				0
9		70% Recovery Light brown to black sandy clay with gravel (CL-SW) - with clayey sand lenses - with black organics		0
10			AS-4-10	0
12				
13		40% Recovery Light brown to dark grey clayey sand (SC) - with light grey clay seams		4.3
14			AS-4-14	
16				1.7
17		50% Recovery Tan to dark grey sandy clay (CL) - with sheen and moderate odor	AS-4-18	
18				
19		Black silty clay (CL) - with peat and strong odor		
20				

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	115.35	Geologist:	DS
Project:	Mobile	Easting:	-56.86	Drill Method:	GeoProbe
Location:	Mobile.AL	Grd. Elev:	12.68	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Page: 2 of 2

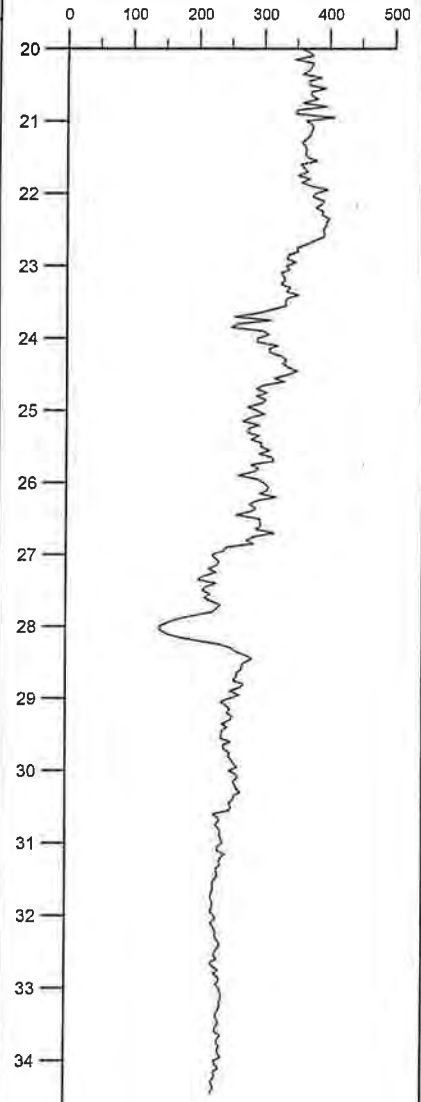
Boring No.: AS-4

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

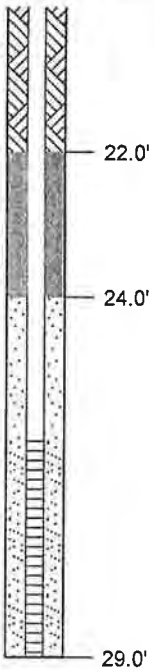
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		Dark brown to grey sand with clay (SP)	AS-4-21	7
21		- with sheen and strong odor		
		Black clay with peat (CL)		4.1
22		- with sheen and moderate to strong odor		
		- A log was hit by the bit at 22'	AS-4-23	0.4
23		Soft black to dark brown sandy silty clay with peat (CL)		
		- with strong odor and sheen		0.1
24		End of boring		

SUBSURFACE PROFILE | SAMPLE

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	53.79	Geologist:	DS
Project:	Mobile	Easting:	36.21	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	14.94	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

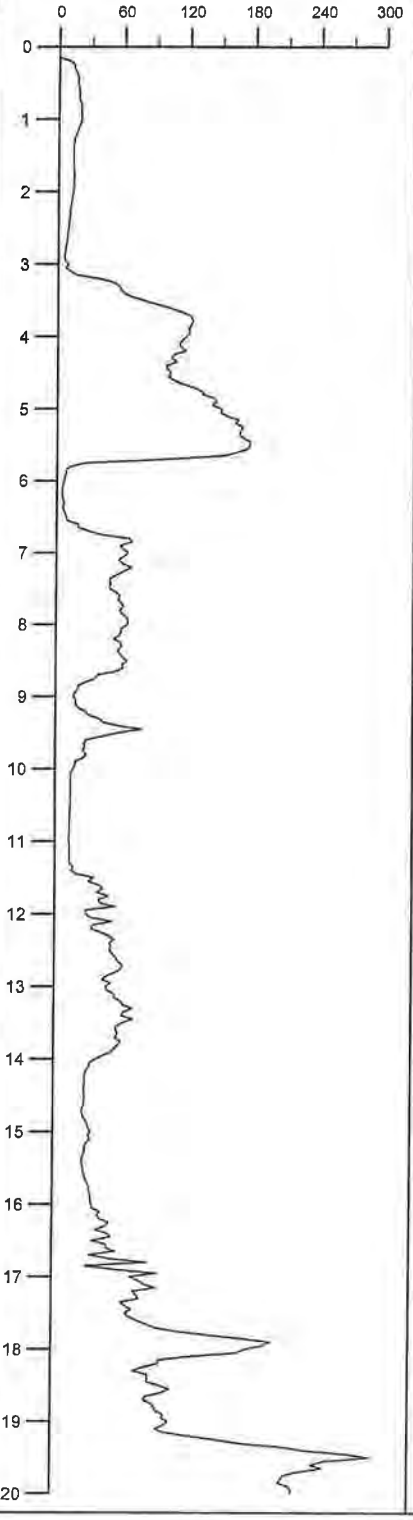
Boring No.: AS-5

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

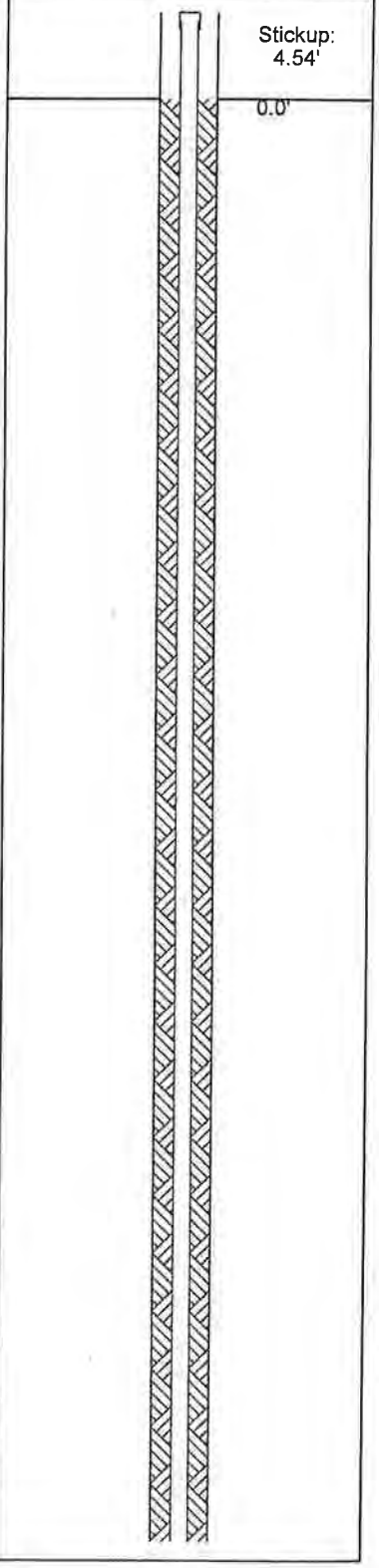
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		70% Recovery Dark brown silty loam (Topsoil)		2.0
1			AS-5-2	1.6
2		Orange sand (SP) - with organics		
3				1.7
4		90% Recovery		
5		Light grey and orange clay (CH)		1.4
5			AS-5-6	1.3
6		Orange coarse sand with gravel (SW)		
7				
8		Light brown to black clayey sand with gravel (SC) - with light orangish brown clay lenses		1.2
8				1.1
9		70% Recovery Dark brown clayey sand (SC) - with moderate odor	AS-5-9.5	
10		Light brown sand (SP)		
10		Soft light greenish gray clay (CH) - with orange striations		
11		Light brown sand (SP) - Moist		
12				0.9
13			AS-5-14	0.7
14		20% Recovery Light brown to black clayey sand with gravel - Moderate odor		
15				
16				
17				
18		10% Recovery Dark orangish brown to black clayey sand (SC) - with organics	AS-5-19	0.7
19				
20				

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	53.79	Geologist:	DS
Project:	Mobile	Easting:	36.21	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	14.94	Driller:	JG
Date:	5-23-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: AS-5

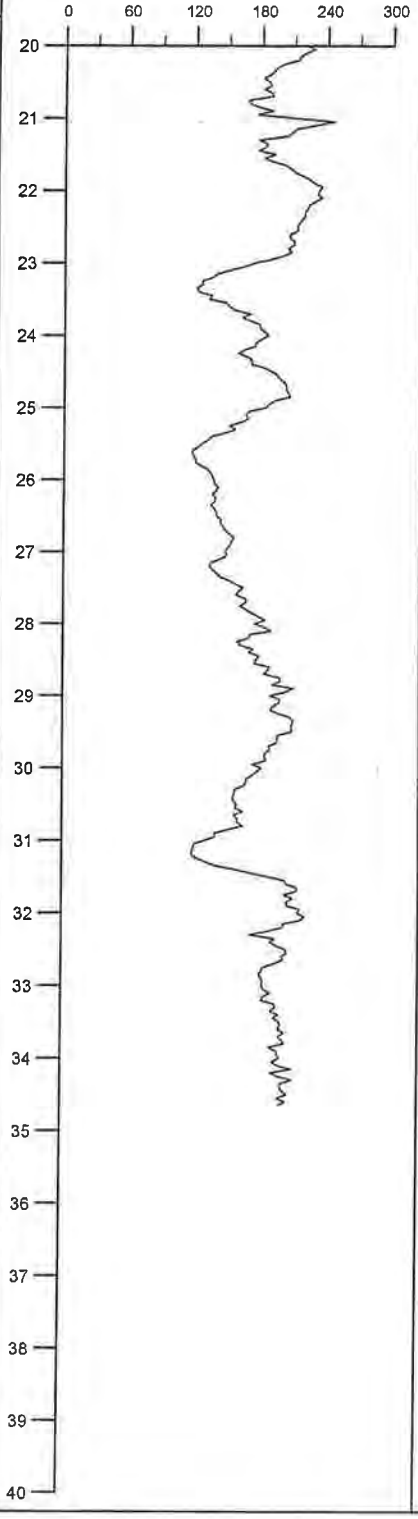
ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

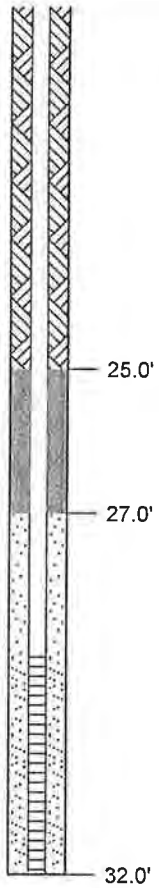
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		50% Recovery Black silty clay with gravel (CL) - with organics - with strong odor		0.5
21			AS-5-22	0.4
22		Soft black clay (CH) - with organics		
23				
24		Soft black sandy clay (CL) 70% Recovery		0.3
25		- with organics		0.4
26		Coarse tan to black sand (SW) - with sheen and odor	AS-5-26	
27		Alternating laminations of tan sand (SP), and soft dark brown clay (CH) - Laminations are ~ 1" thick		0.3
28			AS-5-30	0.2
29		100% Recovery Silty fine sandy clay (CL) - with tan clayey sand lenses from 1" to 2" thick		
30				
31				
32		End of boring		0.1
33				
34				
35				
36				
37				
38				
39				
40				

Soil Conductivity (mS/m) Probe Log



Well Completion Details

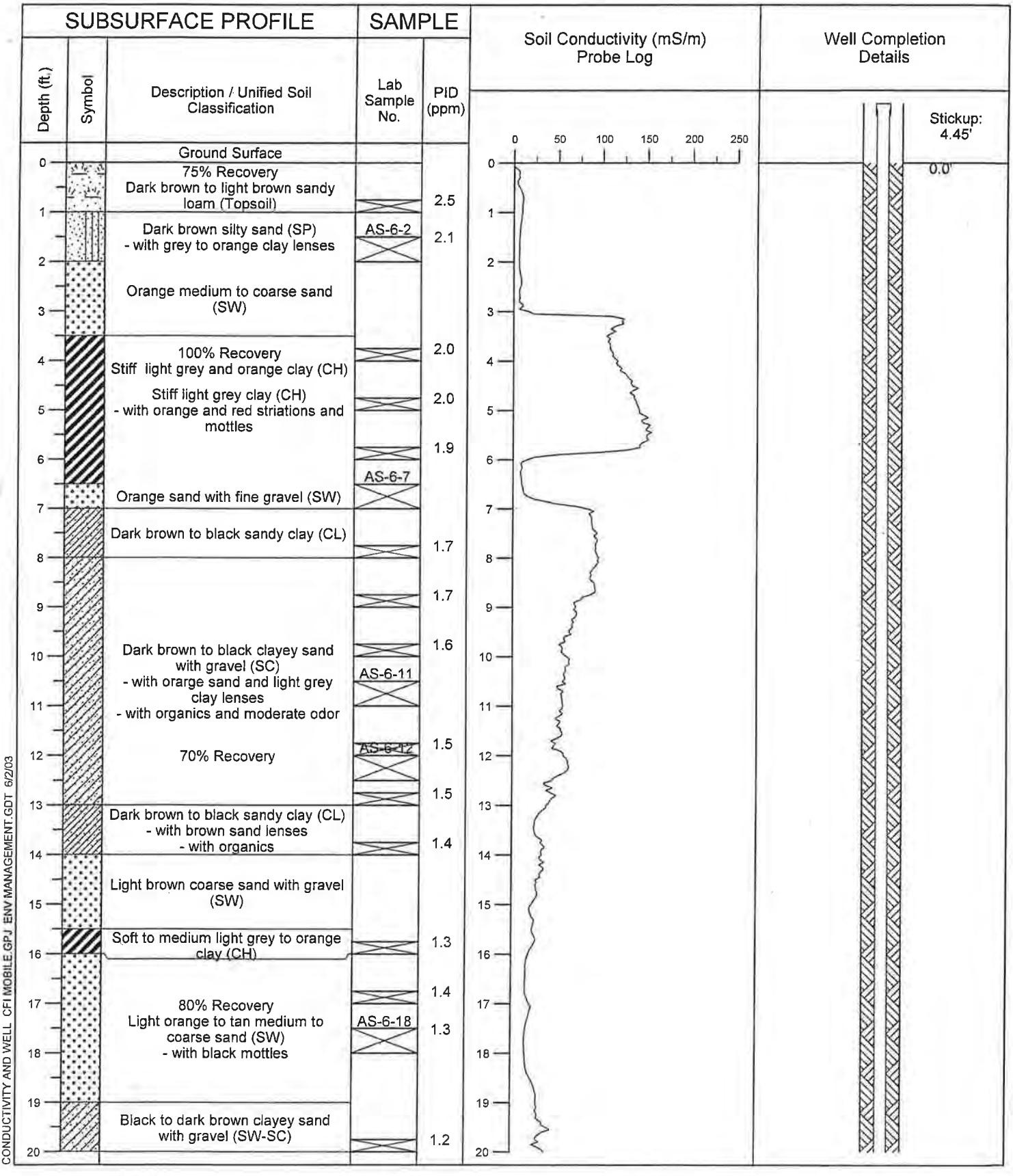


CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-63.62	Geologist:	DS
Project:	Mobile	Easting:	-20.21	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	16.3	Driller:	JG
Date:	5-22-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: AS-6

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



Project No.:	CFI	Northing:	-63.62	Geologist:	DS
Project:	Mobile	Easting:	-20.21	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	16.3	Driller:	JG
Date:	5-22-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

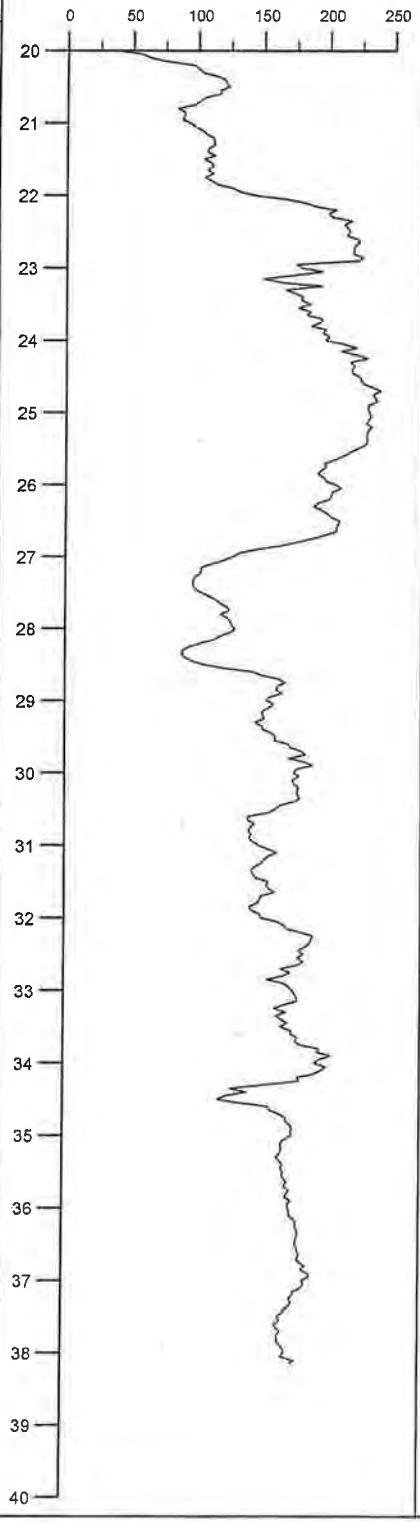
Page: 2 of 2

Boring No.: AS-6

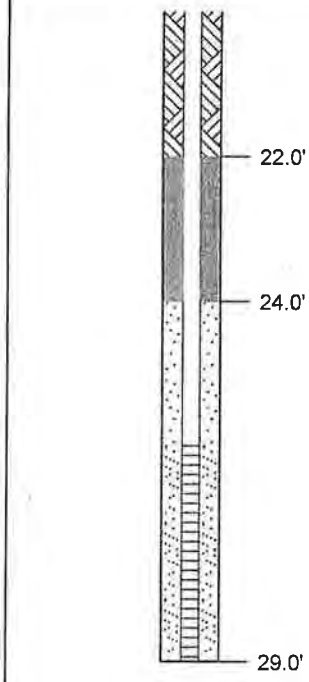
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		70% Recovery		
21		Dark brown to black peat (PT) - with slight odor - with 4" seam of light grey coarse sand at 21.6'		1.0
22				.09
		Soft greenish grey clay (CH)		
23		Light brown to black peat (PT) - with moderate odor - with clay lenses and sheen at 23.5'	AS-6-23.5	0.8
24				
25		Soft dark brown to black clay with peat (CL) - with silt and sand lenses - with slight odor		1.0
26				0.9
27		Dark brown to black sand (SP) - with sheen and storng odor	AS-6-28	0.8
28			AS-6-29	0.8
29		Dark brown to black sandy clay (CL) - with tan sand lenses - with sheen and strong to moderate odor from 28' to 29'		
30				0.7
31				
32		End of boring		0.7
33				
34				
35				
36				
37				
38				
39				
40				

Soil Conductivity (mS/m) Probe Log



Well Completion Details



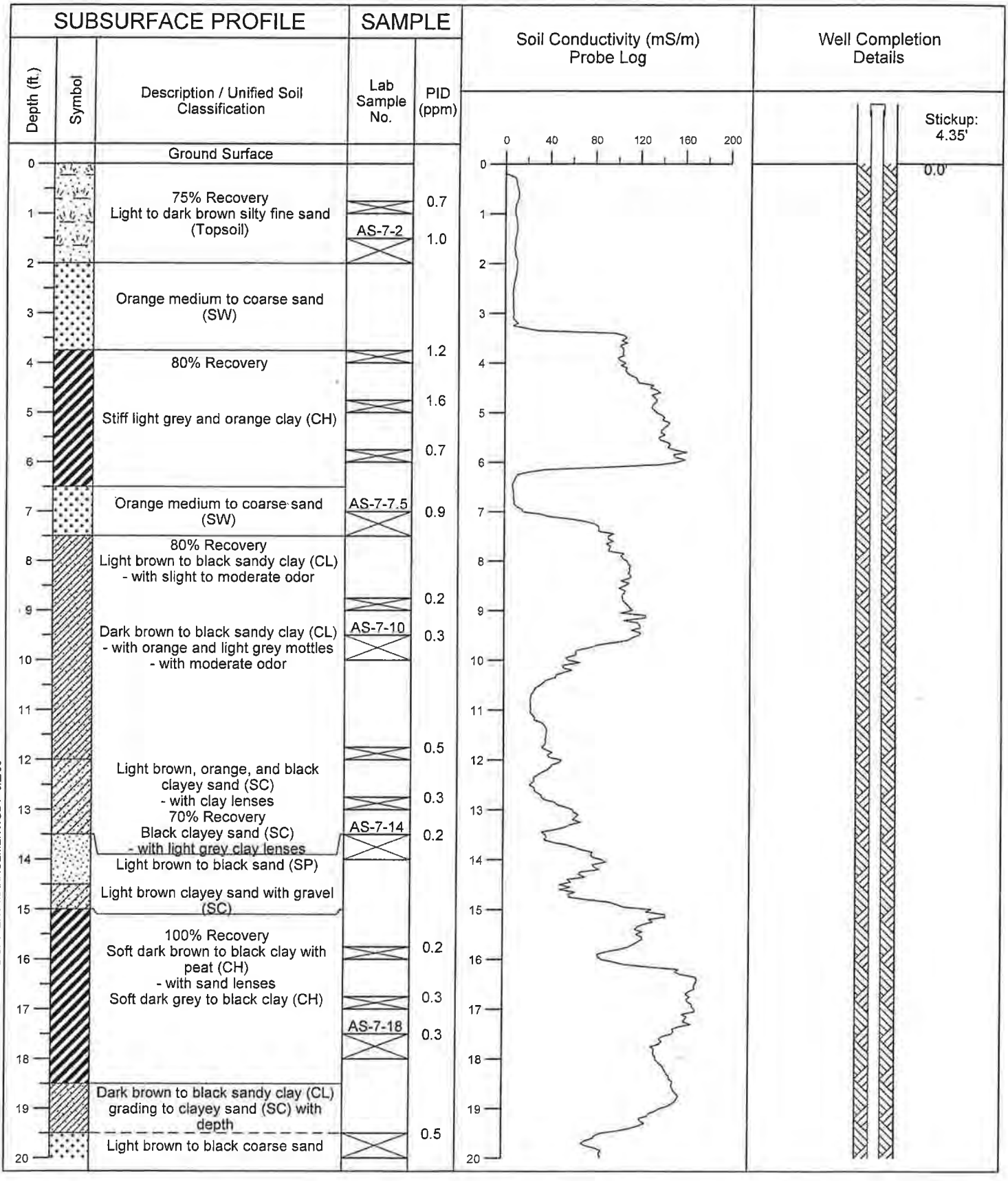
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-206.46	Geologist:	DS
Project:	Mobile	Easting:	13.29	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	13.15	Driller:	JG
Date:	5-22-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

Boring No.: AS-7

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-206.46	Geologist:	DS
Project:	Mobile	Easting:	13.29	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	13.15	Driller:	JG
Date:	5-22-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

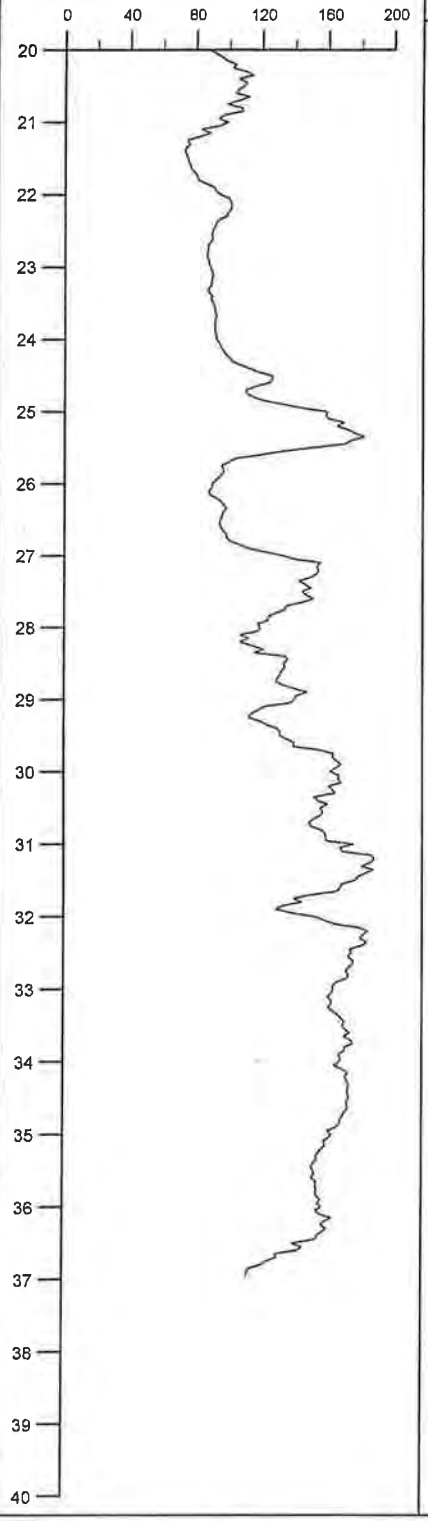
Boring No.: AS-7

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

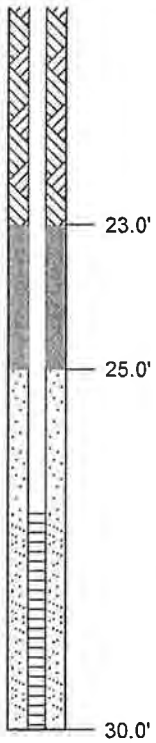
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		(SW) Dark grey to dark brown coarse sand (SW) - Sample tube stuck. Sample scraped from tube	AS-7-22	
21				
22		Light brown to black coarse sand (SW) *(Continued)*		
23				
24		Dark brown to black clay (CH)		0.3
25		- sandy 25' to25.5'	AS-7-26	0.2
26		Dark brown sand (SP) - wet		
27		Grey to dark brown sand (SP) - Odorous		
28		Soft dark brown clay with peat (CH)		0.1
29		100% Recovery Light grey coarse sand (SW)		0.1
30		Soft dark brown clay (CH) - with organics - with silty clay lenses	AS-7-30	0
31				
32		End of boring		0
33				
34				
35				
36				
37				
38				
39				
40				

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-146.46	Geologist:	EJF
Project:	Mobile	Easting:	65.97	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	16.05	Driller:	JG
Date:	6-01-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

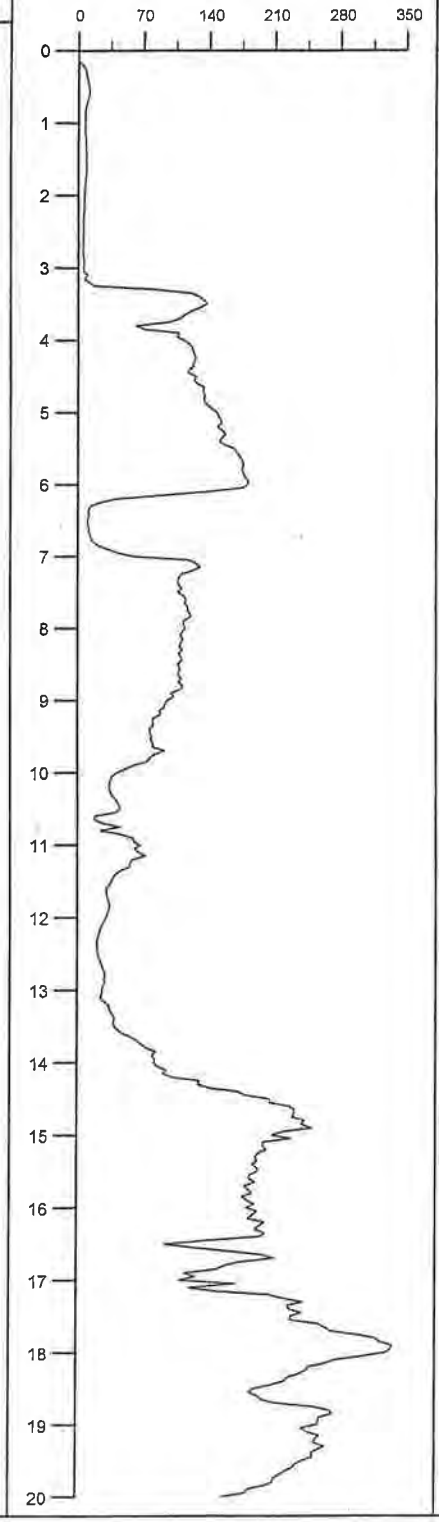
Page: 1 of 2

Boring No.: AS/RW-8

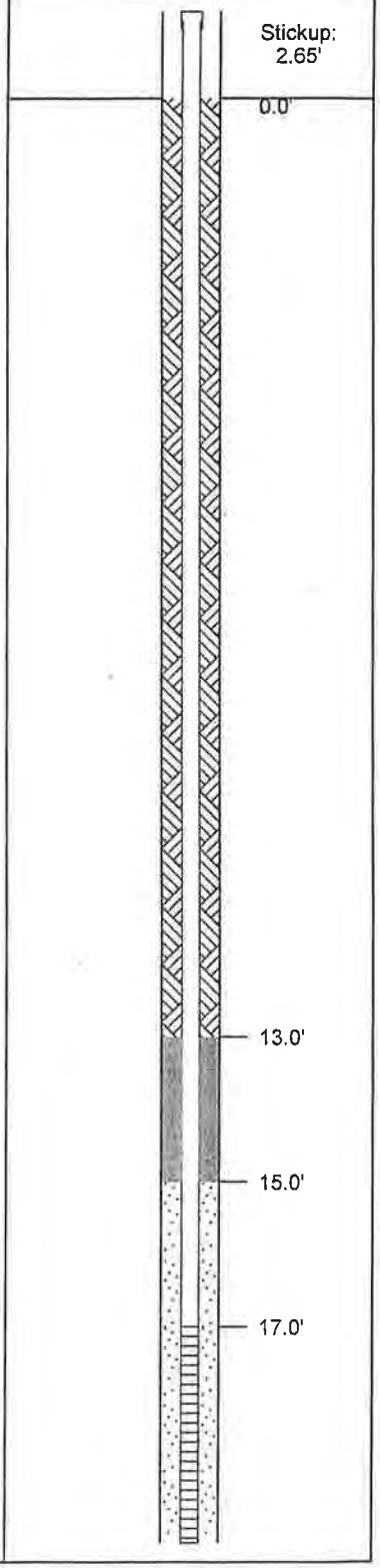
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
1		80% Recovery Light reddish brown fine sand with silt (SP) Orange fine sand (SP)		0
2				0
3			AS-8-3.5	0
4		100% Recovery Very stiff light grey clay (CH)		
5				0
6		Hard light grey clay (CH)		0
7		Orange fine sand (SP)	AS-8-8.0	
8		Stiff dark brown to black silty clay (CL)		2.0
9				8.8
10				
11		- with concrete debris - Moderate cresote odor 75% Recovery Dark brown to black silt with sand and clay (ML) - with light odor		10
12			AS-8-12	30
13		75% Loose dark brown silt with sand (ML) - with light odor		11
14		- with thin lenses of orangeish brown sand		12
15		Firm dark brown to black silt with sand and pebbles (ML) - Moderate odor	AS-8-15 AS-8-16	38 7
16		Light orangish brown fine sand with silt (SP)		
17		75% Recovery Dark brown silty sand with fine gravel (SW) - with strong odor		537
18				140
19		Dark brown to black fine gravelly silt with sand (ML)-(GW)		102
20		Dark brown to black silt with peat	AS-8-20	25

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-146.46	Geologist:	EJF
Project:	Mobile	Easting:	65.97	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	16.05	Driller:	JG
Date:	6-01-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Page: 2 of 2

Boring No.: AS/RW-8

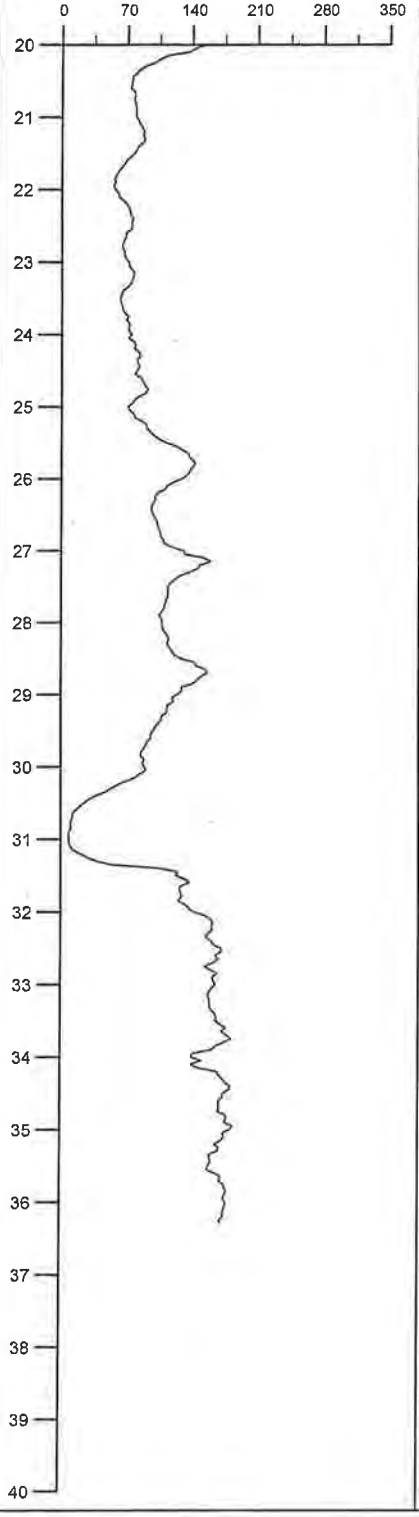
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE

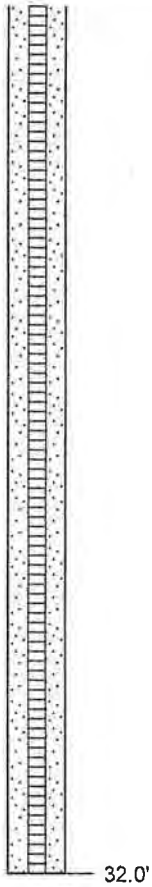
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		(ML)		
21				15
22				7
23		Dark brown medium sand with silt(SP)	AS-8-24.0	11
24		- with shells - greyish brown - saturated with water		7
25		- slight odor Greyish brown medium sand with silt (SP)		5
26		- Light grey - Very fine		5
27		Reddish orange wood	AS-8-28	5
28		Light grey fine sand with silt (SP) End of boring		
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				

SAMPLE

Soil Conductivity (mS/m) Probe Log



Well Completion Details



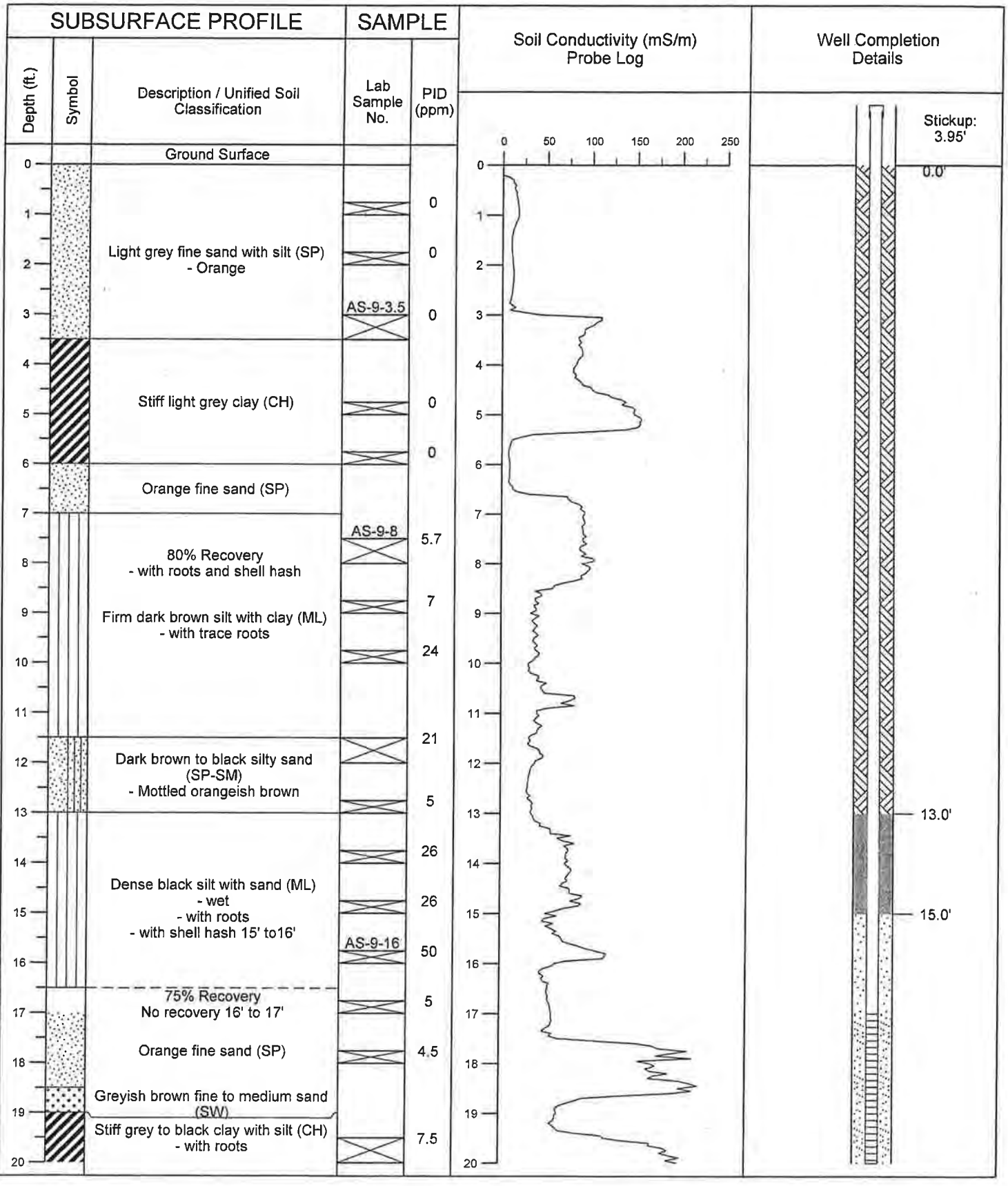
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-105.98	Geologist:	EJF
Project:	Mobile	Easting:	106.90	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	15.29	Driller:	JG
Date:	6-01-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

Boring No.: AS/RW-9

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-105.98	Geologist:	EJF
Project:	Mobile	Easting:	106.90	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	15.29	Driller:	JG
Date:	6-01-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: AS/RW-9

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20					0 50 100 150 200 250	
21		Soft black silt with sand (ML) - with trace roots and organics		30		
22		75% Recovery No recovery 20' to 21'		9		
23		Dark grey fine to medium sand with silt (SW)	AS-9-24	6		
24						
25				18		
26		Light grey to brown medium sand with silt(SP)		22		
27			AS-9-28	7.5		
28		End of boring				32.0'
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

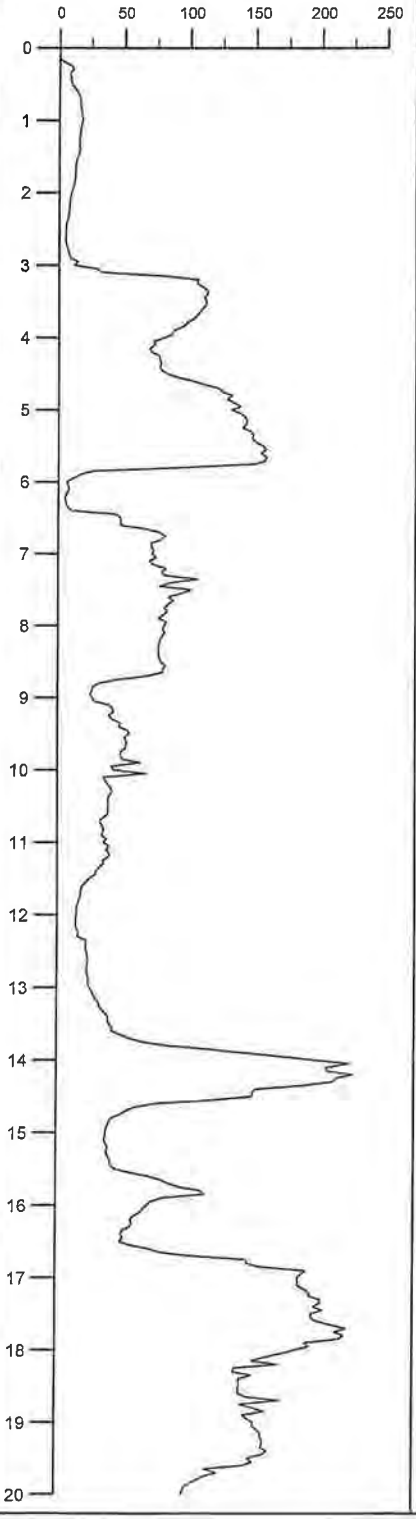
Project No.:	CFI	Northing:	34.16	Geologist:	EJF
Project:	Mobile	Easting:	97.84	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	14.87	Driller:	JG
Date:	6-01-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Boring No.: AS/RW-10

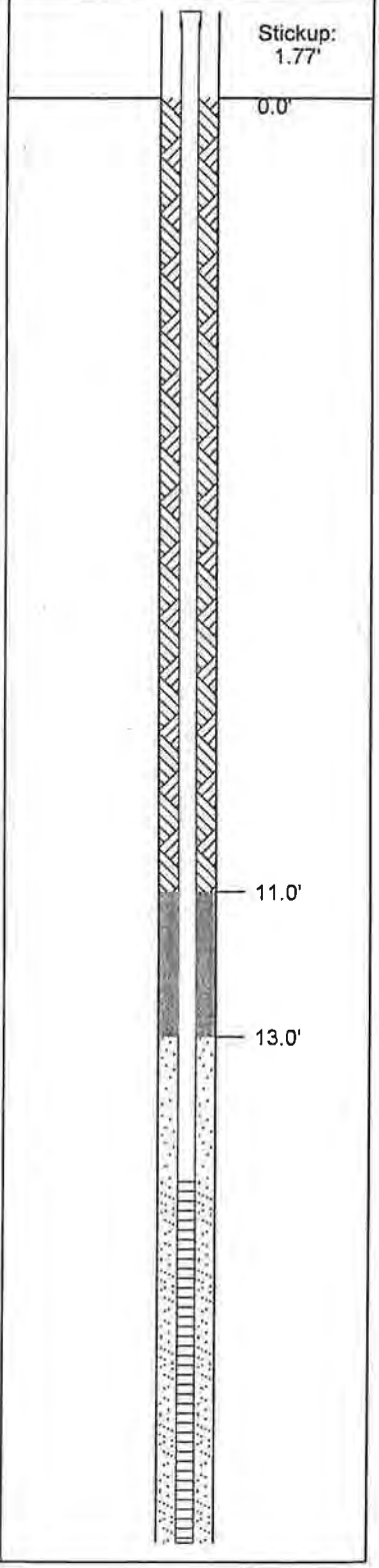
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0-3		Light grey fine sand with silt (SP) - with roots Orange fine sand (SP)		0 0 0
4-6		- with reddish brown staining Stiff light grey clay (CH)		2.5 3.0 6.3
7-8		Firm dark brown silt (ML) - with organics - with roots	AS-10-8.0	8.6
9-10		50% Recovery No recovery 8' to 10'		20
11		Brown to black silt with clay (ML) - with trace sand and pebbles	AS-10-12	10
12-13		Reddish orange silty fine sand (SP-SM) - Mottled with black and tan silty sand lenses Dense dark brown silt with clay (ML)		3 40
14-15		Light brown fine sand with silt (SP)	AS-10-16	10 10
16-17		50% Recovery No recovery 16' to 18'		
18-20		Light orange fine sand with silt (SP) - Orange and black mottled - with organics	AS-10-20	4 36

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	34.16	Geologist:	EJF
Project:	Mobile	Easting:	97.84	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	14.87	Driller:	JG
Date:	6-01-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Boring No.: AS/RW-10

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20		Brown to orange silty fine sand (SP-SM)			0 50 100 150 200 250	
23			AS-10-24			
24		Dark grey to black fine to medium sand - Saturated with cresote oil				
27			AS-10-28			
28		End of boring				30.0'

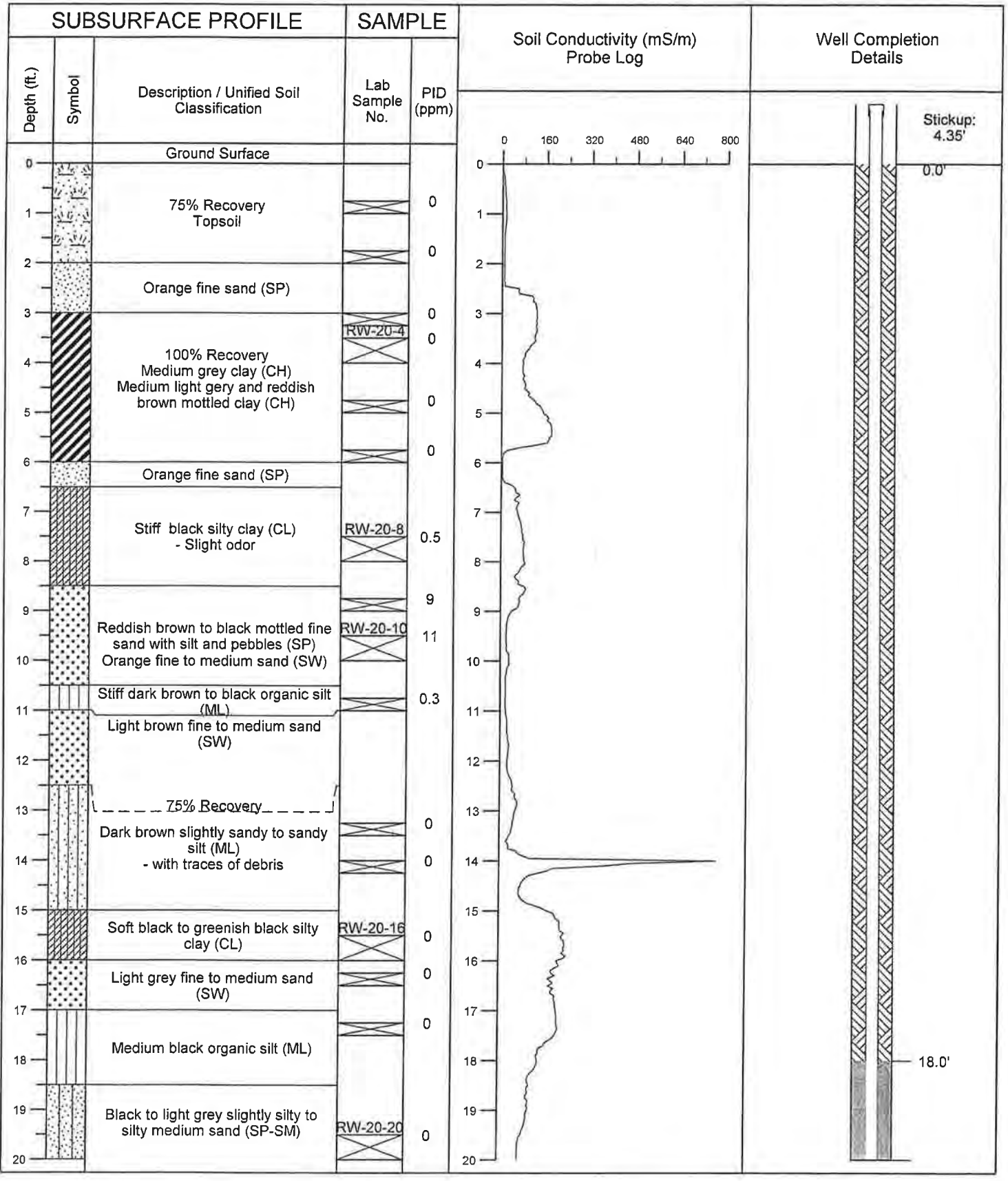
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	100.01	Geologist:	EJF
Project:	Mobile	Easting:	123.07	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	11.99	Driller:	JG
Date:	2-20-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Page: 1 of 2

Boring No.: RW/AS-20

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	100.01	Geologist:	EJF
Project:	Mobile	Easting:	123.07	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	11.99	Driller:	JG
Date:	2-20-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Page: 2 of 2

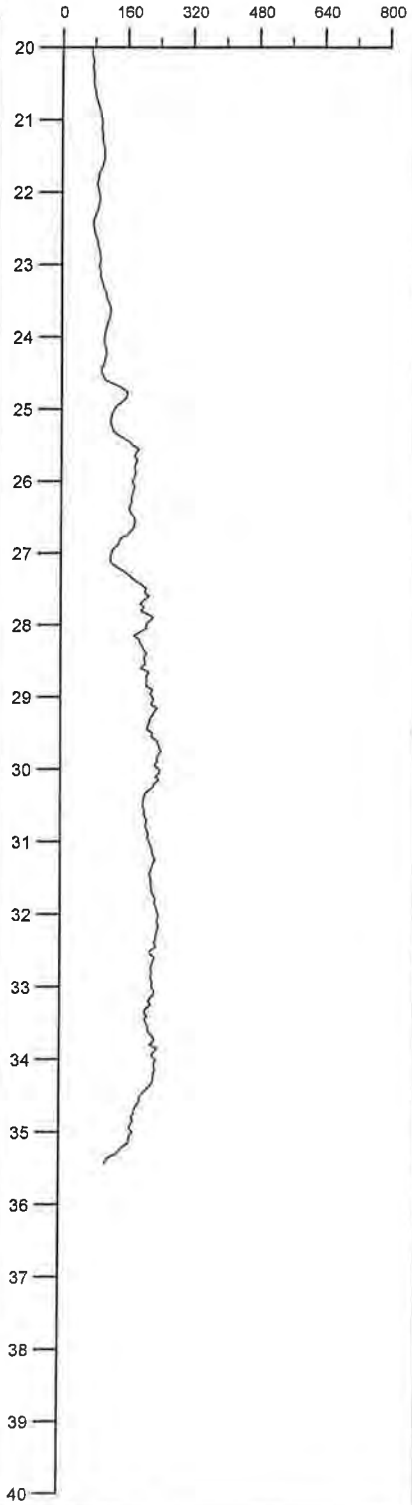
Boring No.: RW/AS-20

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

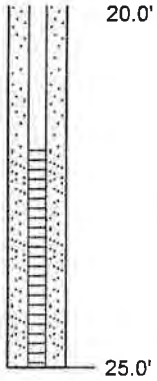
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		70% Recovery Light grey to black fine to medium sand (SW)		0
21				0
22				0
23			RW-20-24	0
24				0
25		Dark grey to black slighty silty to silty fine to medium sand (SW-SM) - with peat lenses		0
26				0
27		Soft dark brown to black silty clay (CL)	RW-20-28	0.7
28		End of boring		

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-223.39	Geologist:	EJF
Project:	Mobile	Easting:	168.23	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.29	Driller:	JG
Date:	2-18-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

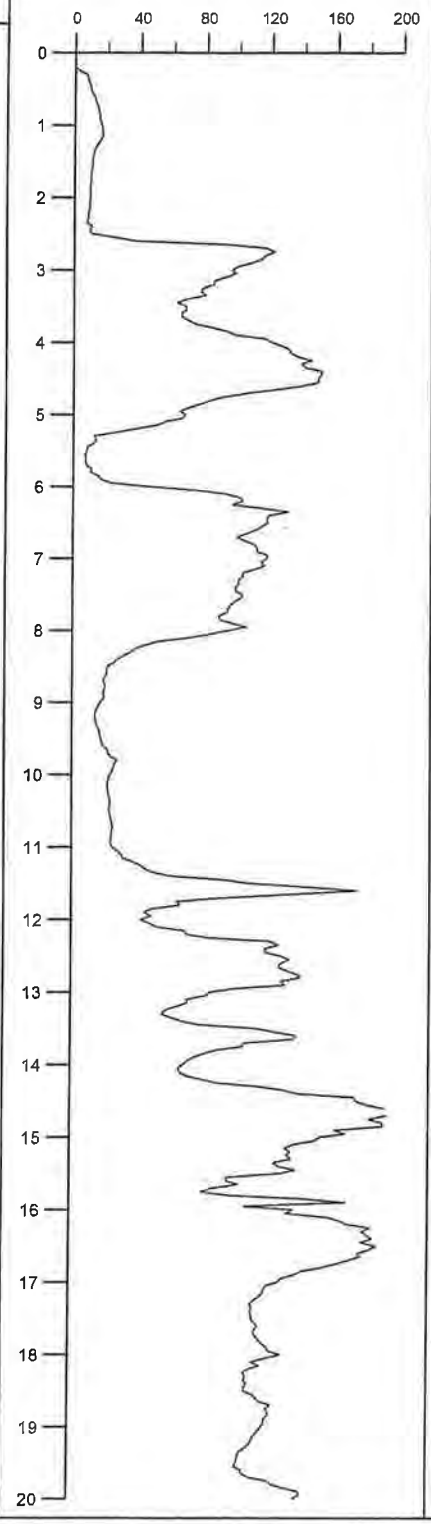
Boring No.: RW/AS-22

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

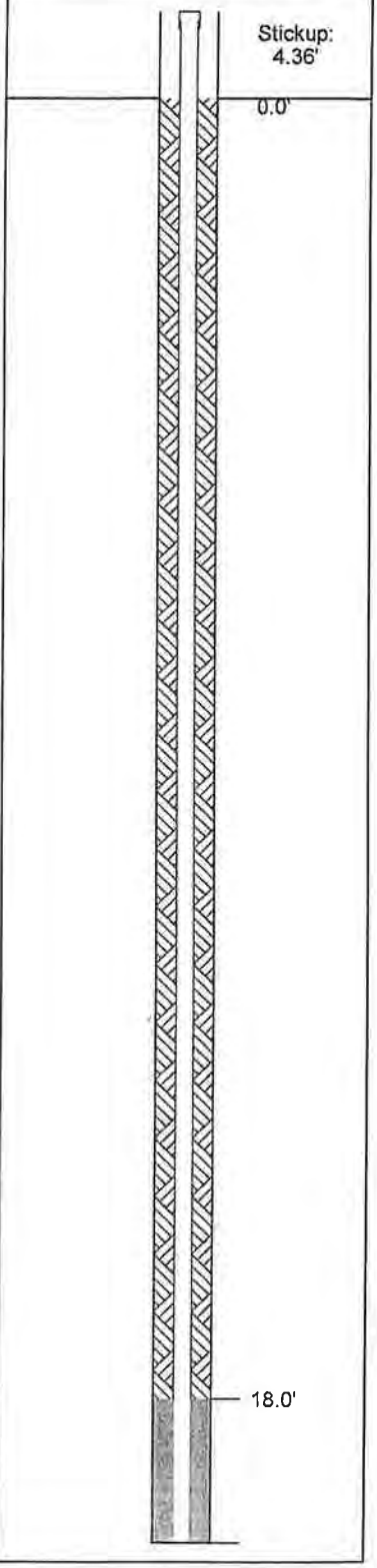
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–2		100% Recovery Topsoil		5 5
2–3		Orange medium sand (SP)		
3–4		Light grey and orange (with brown staining) clay (CL)	RW-22-4	10
4–7		75% Recovery Orange sand (SP)		1.5 2.2
7–8		Stiff reddish brown clay (CH)	RW-22-8	
8–11		90% Recovery Dark brown fine sand with silt (SP)		4.3 3.5
11–14.5		50% Recovery Dark brown silty fine to medium sand (SW-SM) Dark grey sand with silt (SW) - with shell hash - Some oil	RW-22-12	50 3.8
14.5–18.5		50% Recovery Dark brown to black organic silt (ML) - with wood debris and roots	RW-22-16	13 5
18.5		Soft black organic silt (ML) - Saturated		11
19–20		Grey medium sand (SP)	RW-22-20	29 34

Soil Conductivity (mS/m) Probe Log



Well Completion Details



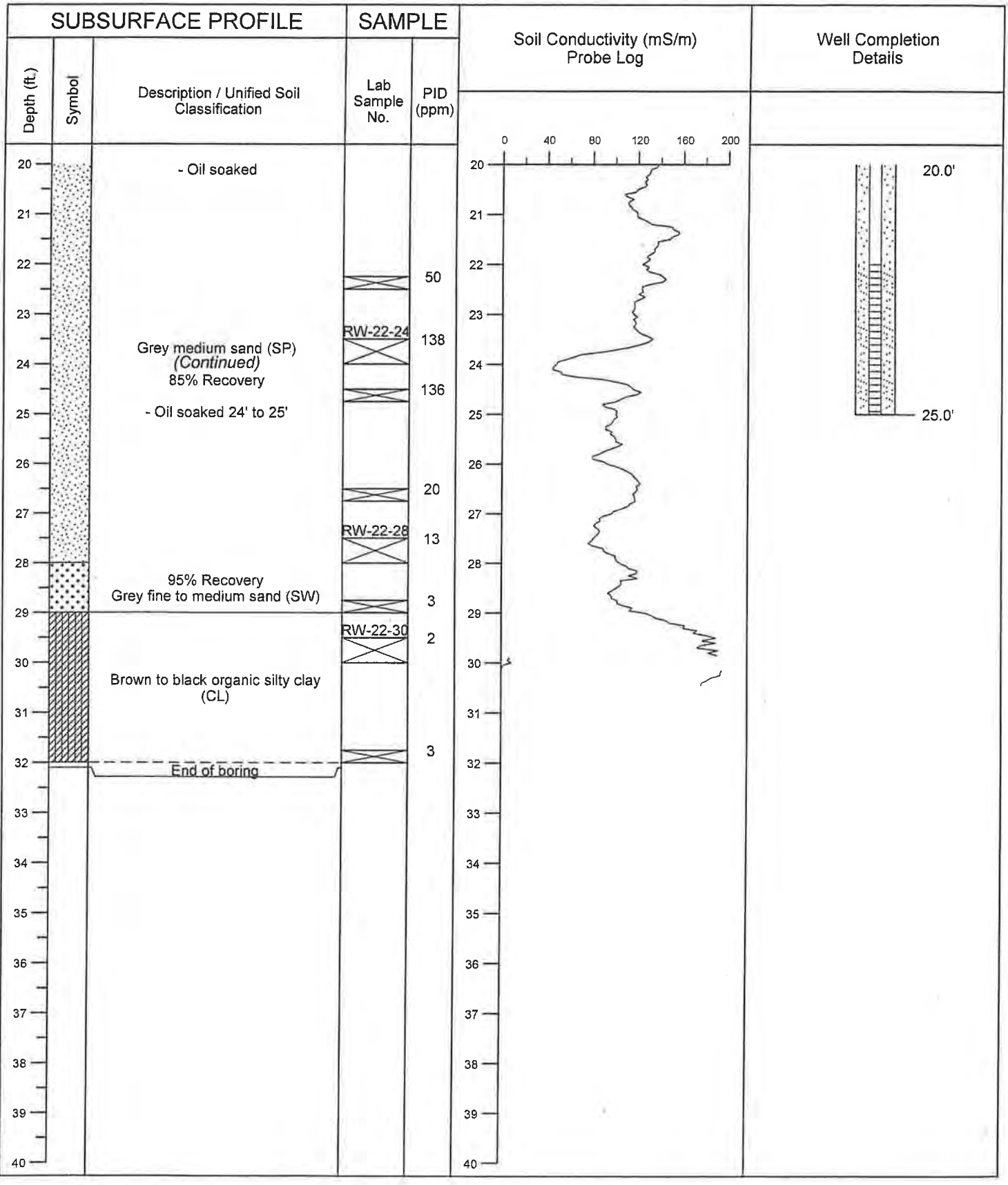
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-223.39	Geologist:	EJF
Project:	Mobile	Easting:	168.23	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.29	Driller:	JG
Date:	2-18-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: RW/AS-22

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

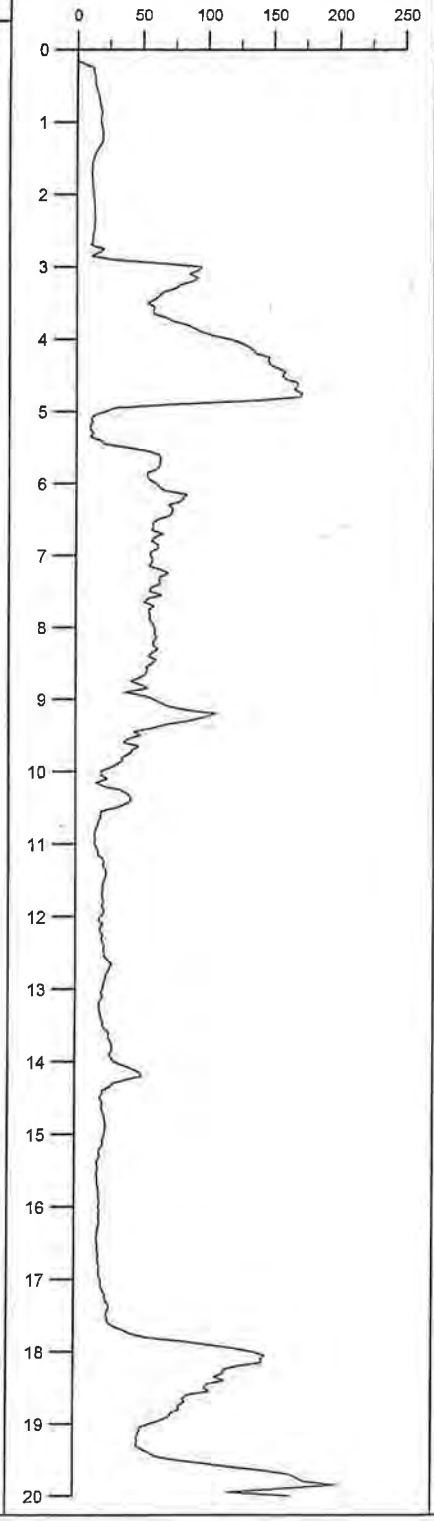
Project No.:	CFI	Northing:	-3.37	Geologist:	EJF
Project:	Mobile	Easting:	33.08	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	17.31	Driller:	EMS
Date:	2-21-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: RW/AS-26

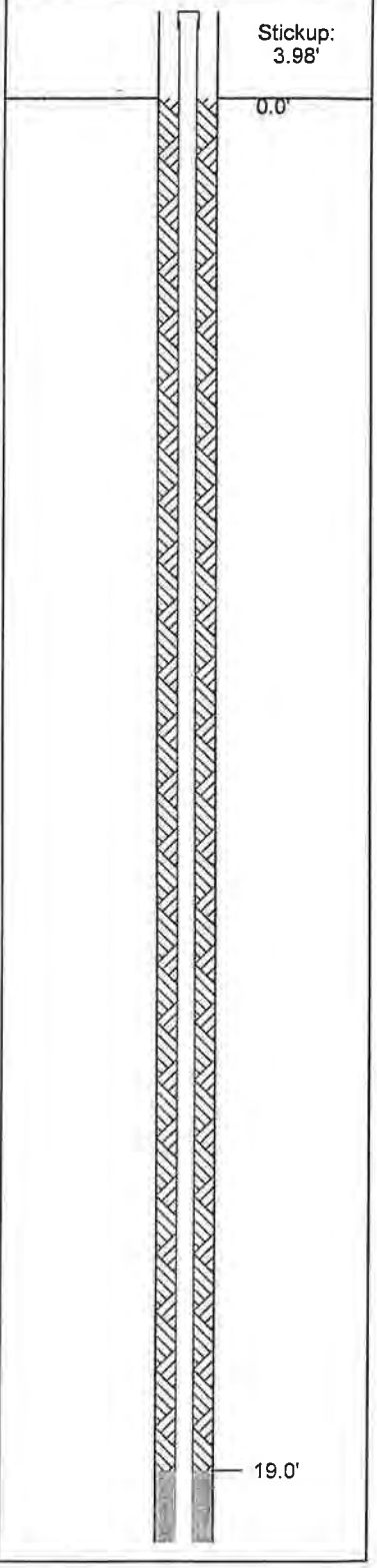
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
1		75% Recovery Topsoil		0 0
2		Orange fine sand (SP)		
3		Medium grey clay (CH) - Mottled	RW-26-4	0
4				
5		No Recovery 4' to 6'		
6				
7		Medium grey clay (CH) - Mottled	RW-26-8	0 0
8				
9		75% Recovery Dark brown to black silty fine sand (SP-SM) - with wood debris		12
10				1.3
11		- Orangish brown	RW-26-12	3.5 12
12				
13		75% Recovery Dark brown to black silty fine sand (SP-SM) - with wood debris		1
14				
15		Orangish brown slightly silty to silty fine sand (SP-SM) - with wood debris	RW-26-16	0 2
16				
17		75% Recovery Light greyish brown sand with silt (SP)		2 5
18				
19		- Dark brown - with debris	RW-26-20	5
20		Soft black silty clay (CL)		

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-3.37	Geologist:	EJF
Project:	Mobile	Easting:	33.08	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	17.31	Driller:	EMS
Date:	2-21-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: RW/AS-26

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

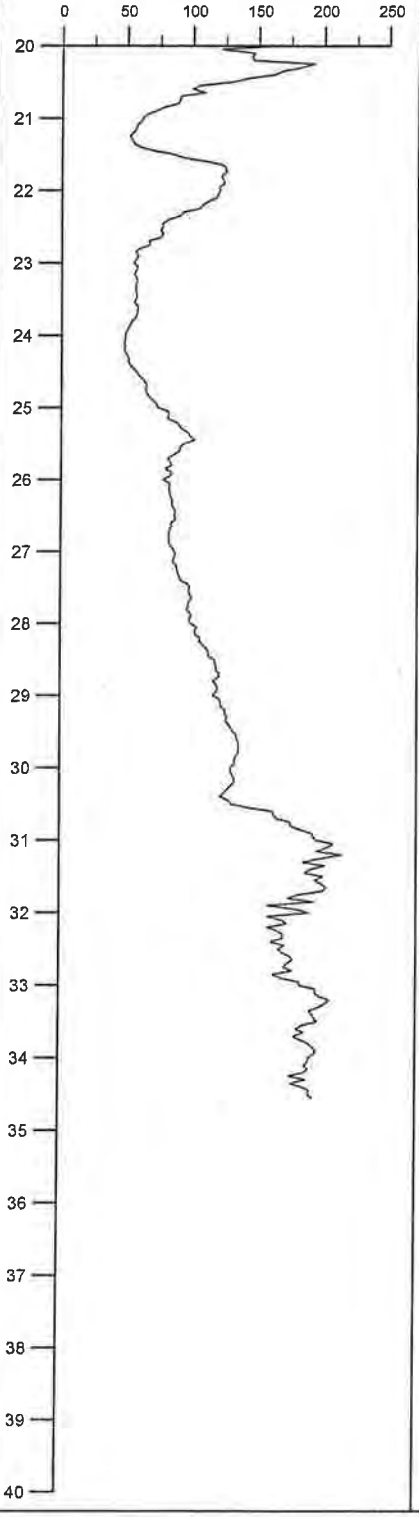
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification
20–21		75% Recovery Dark brown slightly silty to silty fine sand (SP-SM)
21–23		Black organic silt (ML)
23–32		Black silty medium sand (SP)
25–28		75% Recovery Black silty medeium sand (SP) - Possible PID malfunction
28–30		Black medium sand (SP)
30–32		Black organic silty clay (CL)
32		End of boring

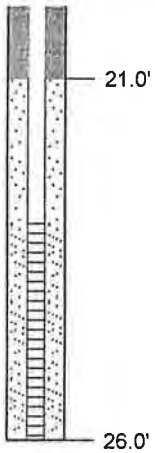
SAMPLE

Lab Sample No.	PID (ppm)
	0
	0
RW-26-24	2
	10
	2000
RW-26-28	

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-83.46	Geologist:	EJF
Project:	Mobile	Easting:	162.61	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.79	Driller:	JG
Date:	2-19-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

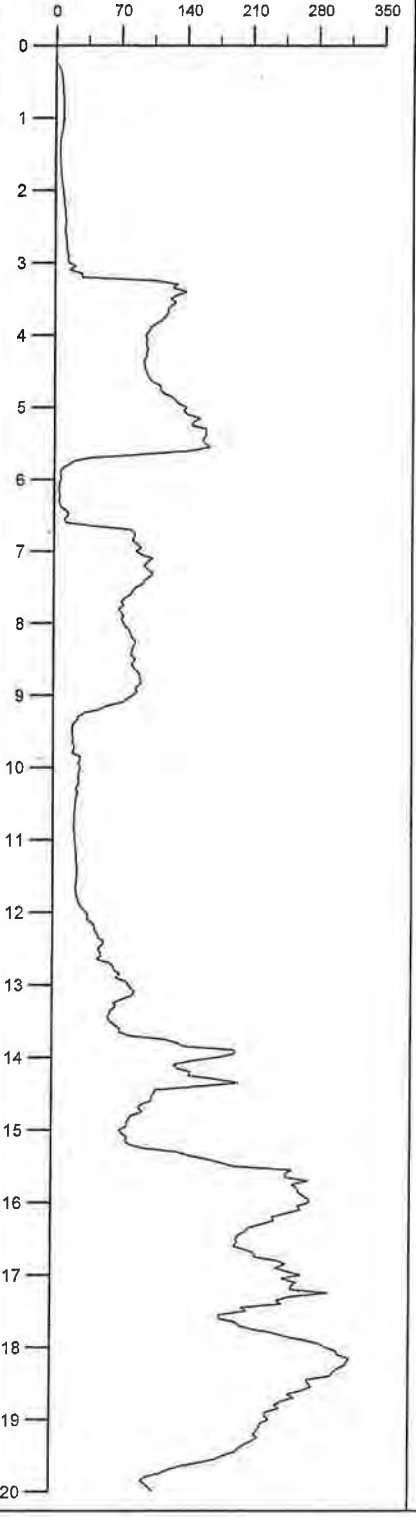
Page: 1 of 2

Boring No.: RW-21

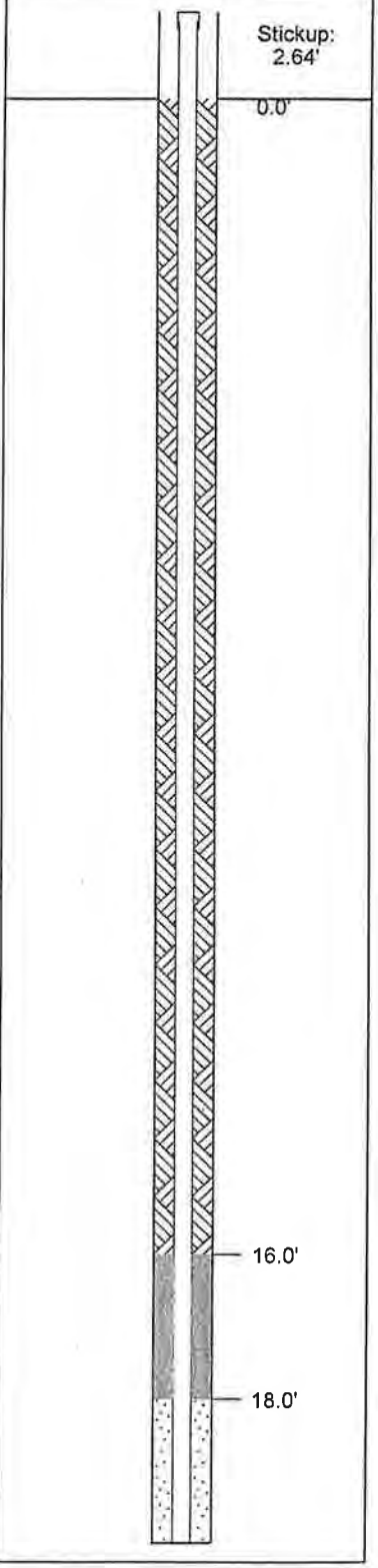
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–1		60% Recovery Dark brown organic rich topsoil with grass and roots		0
1				0
2			RW-21-2.5	0
2–4		No recovery Orange fine sand with silt (SP) 75% Recovery Orange fine sand with silt (SP)		
4–5				0
5–6		Medium grey clay (CH)		
6		Orange fine sand with silt (SP)		0
7			RW-21-8	10.6
8–9		Dark brown to black silty clay (CL) - Moderate odor 80% Recovery Dark brown silty clay (CL) - with shell fragments - with trace sand		5
9–10				25
10–11		Dark orangish brown fine to medium sand with silt (SW-SM) - Moderate odor - Minor wood debris	RW-21-12	5
12–13		75% Recovery Dark brown to black silty fine sand (SP-SM)		10
14		Light grey shell hash		
15		Dark greish brown sandy clay (CL) - with shell hash - Saturated - Strong odor		55
15–16			RW-21-16	85
16			RW-21-17	100
16–18		Black organic silt with clay (ML) - with roots - strong odor Very loose black silt with sand (ML) - Creosote soaked		
18				20
19				10
20		Grey medium sand (SP)		

Soil Conductivity (mS/m) Probe Log



Well Completion Details



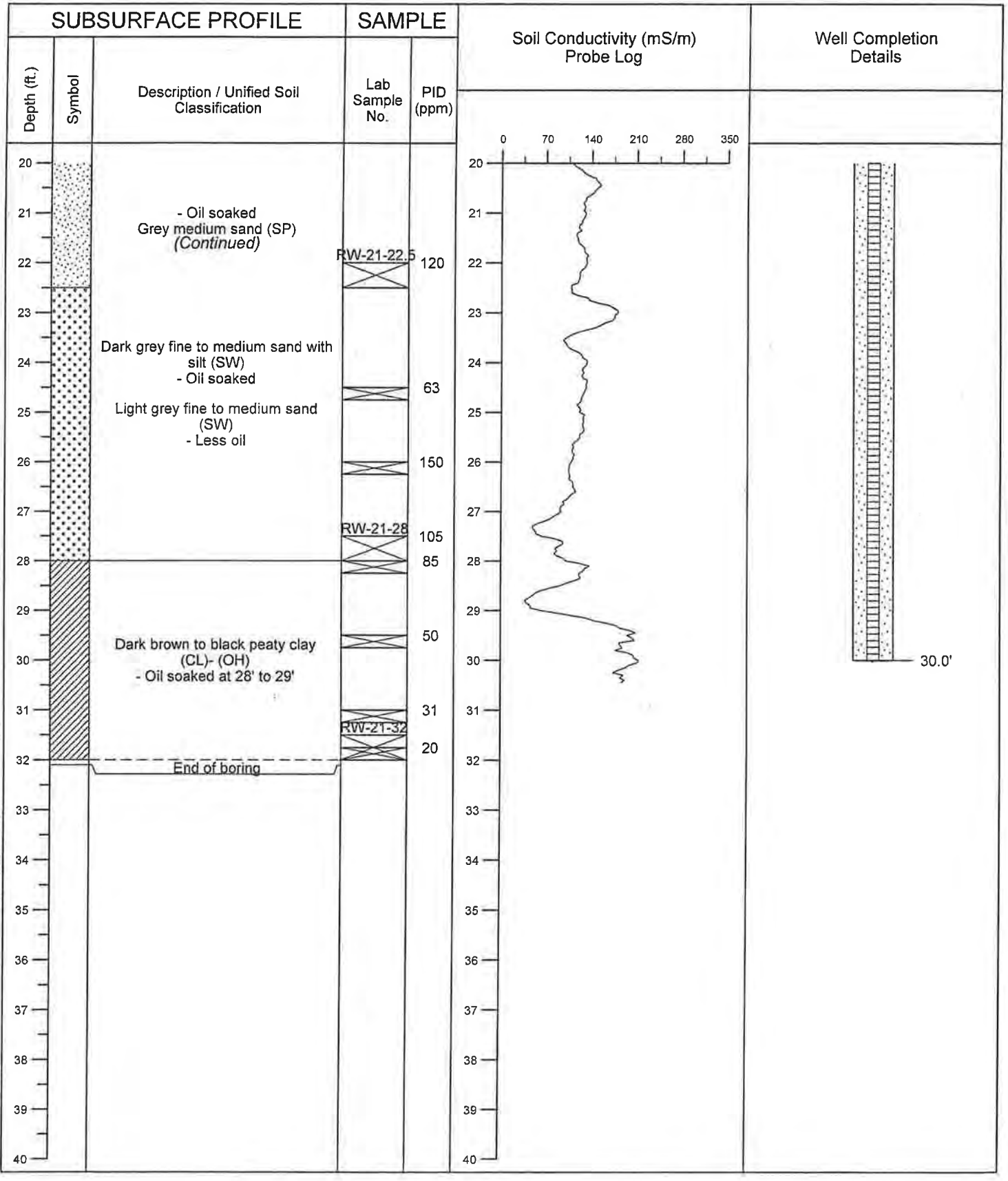
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-83.46	Geologist:	EJF
Project:	Mobile	Easting:	162.61	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.79	Driller:	JG
Date:	2-19-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: RW-21

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-27.36	Geologist:	EJF
Project:	Mobile	Easting:	89.90	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	15.9	Driller:	EMS
Date:	2-21-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

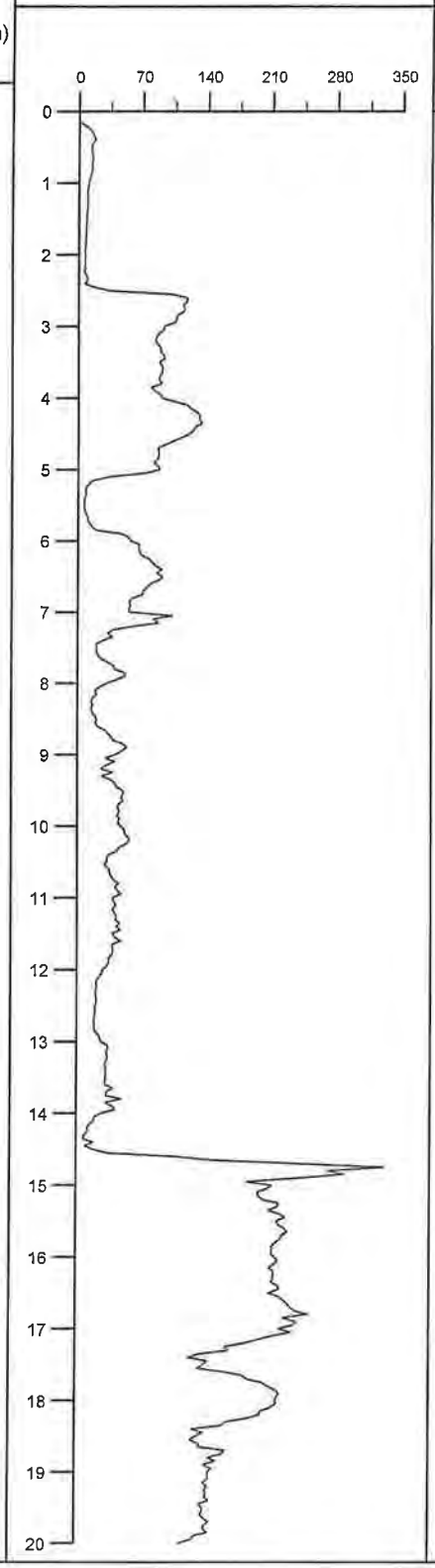
Boring No.: RW-23

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

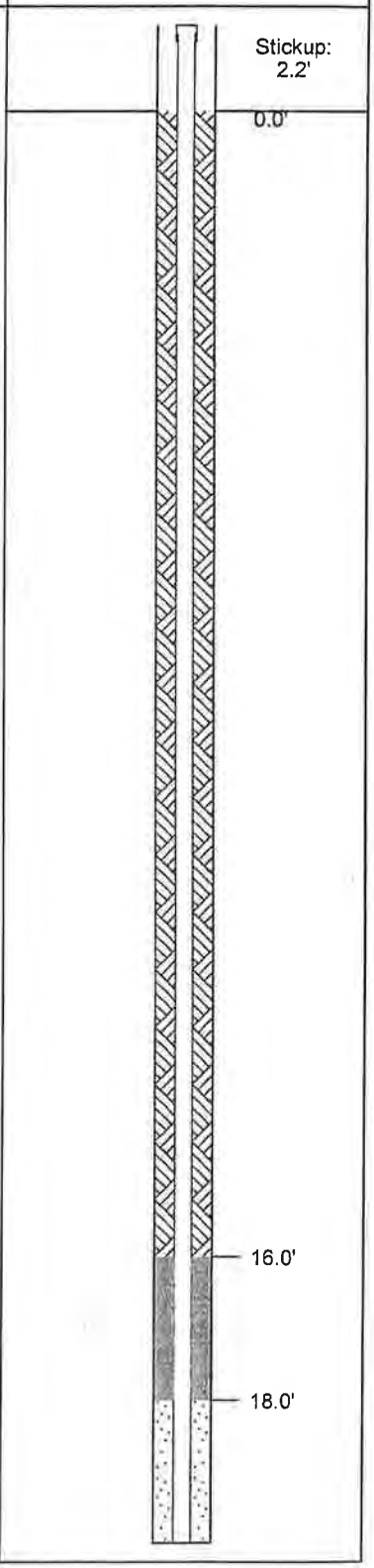
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		75% Recovery Topsoil		0
1		Orange fine sand (SP)		
2		Medium grey clay (CL)		0
3			RW-23-4	0
4		75% Recovery		
5				0
6		Orange fine sand (SP)		6
6		Dark greyish brown silt with clay (ML) - with debris		5
7			RW-23-8	
8		Dark grey fine sand with silt (SP)		
8		90% Recovery Orangish brown fine sand (SP)		4
9				
10		Black Slightly clayey silt to silty clay (ML)-(CL) - with wood debris - with trace sand		17
10				25
11			RW-23-12	35
12		80% Recovery Orange fine sand (SP)		0
13		Light brown fine sand with silt (SP)		2.6
14		Stiff dark grey organic silt (ML) - with shell debris		24
15			RW-23-16	120
16		75% Recovery Dark greyish brown silt with sand (ML) - with shells		
17				115
18		Stiff dark brown to black organic silty clay (CL)		3
19		Stiff dark brown to black organic clayey silt (ML) - with wood debris	RW-23-20	15
20				

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-27.36	Geologist:	EJF
Project:	Mobile	Easting:	89.90	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	15.9	Driller:	EMS
Date:	2-21-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

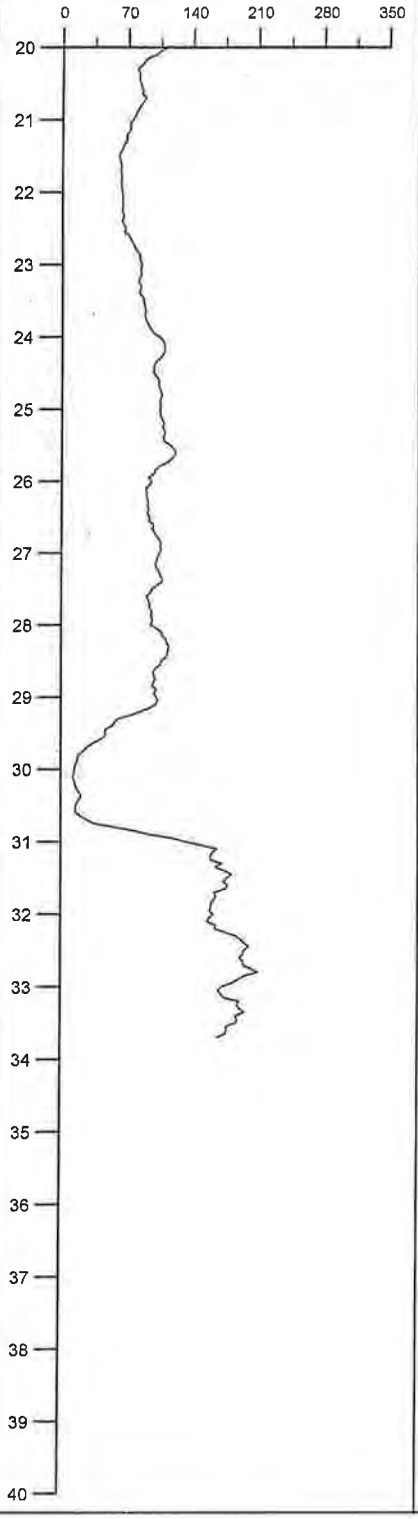
Boring No.: RW-23

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

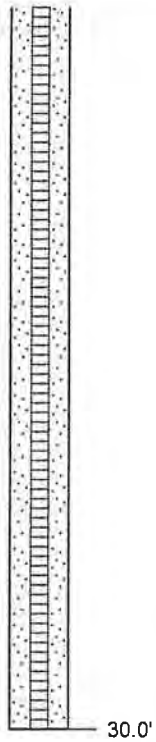
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20				6
21		80% Recovery Light brown to black slightly silty to silty medium sand (SP-SM) - with sheen		
22				60
23			RW-23-24	25
24				
25				7
26		90% Recovery		5
27				11
28				
29		100% Recovery		105
30			RW-23-30	13
31		Dark brown to black organic silty clay (CL)		4.4
32		End of boring		4
33				
34				
35				
36				
37				
38				
39				
40				

Soil Conductivity (mS/m) Probe Log



Well Completion Details

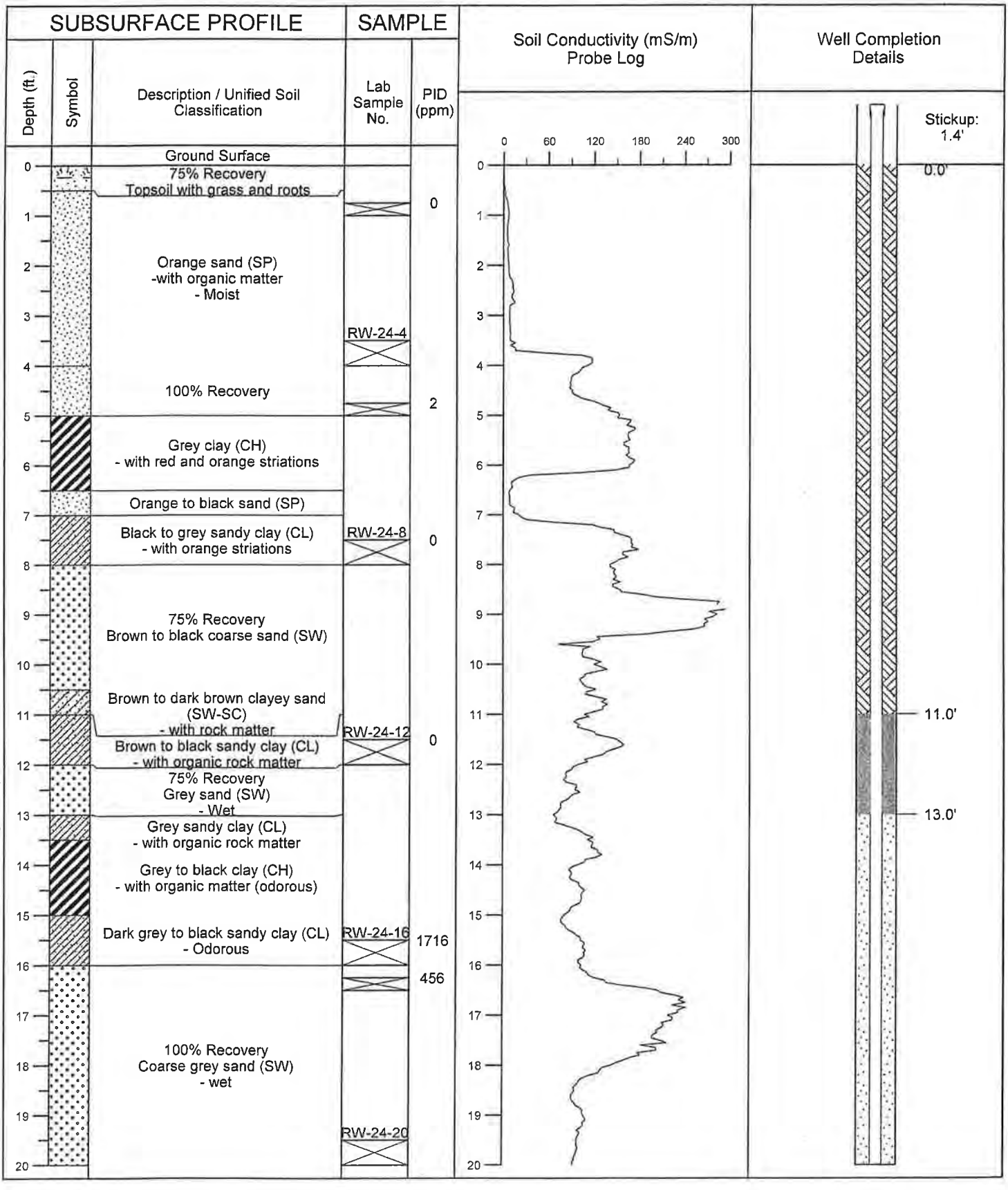


CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-252.88	Geologist:	EJF
Project:	Mobile	Easting:	86.14	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	11.61	Driller:	EMS
Date:	5-16-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Boring No.: RW-24

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-252.88	Geologist:	EJF
Project:	Mobile	Easting:	86.14	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	11.61	Driller:	EMS
Date:	5-16-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Boring No.: RW-24

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

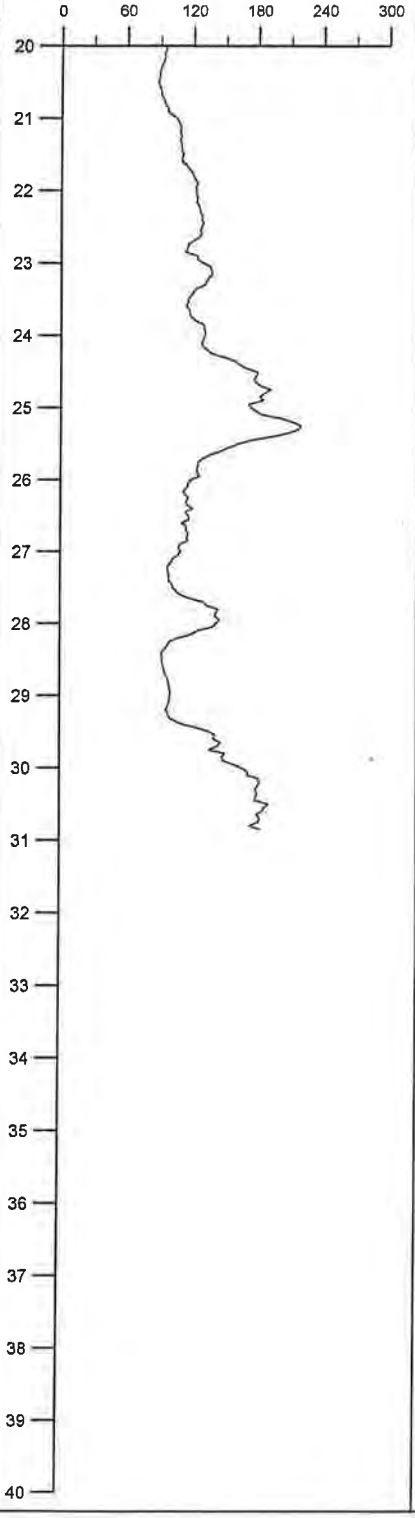
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification
20–22		- Sample tube was stuck, so sample was scraped out of bottom
23–24		Dark brown to black clayey sand (SP-SC)
25–26		Dark grey coarse sand (SW) - wet - with organic matter
27–28		Dark brown sandy clay (CL)
28		End of boring

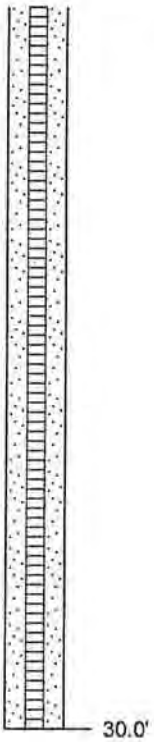
SAMPLE

Lab Sample No.	PID (ppm)
	2000
	716
RW-24-24	
RW-24-25	2000
	54
	4

Soil Conductivity (mS/m) Probe Log



Well Completion Details



Project No.:	CFI	Northing:	-124.60	Geologist:	EJF
Project:	Mobile	Easting:	40.63	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	16.63	Driller:	EMS
Date:	5-16-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

Boring No.: RW-25

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		100% Recovery Fine silty loam (topsoil)		
1		Dark brown moist sand (SP)	RW-25-2	
2		Orange moist sand (SP)		
3		Stiff light grey clay (CH)		
4		Stiff light grey clay (CH) - with black and yellow striations		
5				
6		Orange coarse sand (SW)	RW-25-7	
7		Black sandy clay (CL)		
8		Tan clay (CH) - with orange striations		
9		Dark brown clayey sand (SP-SC) - with organic matter - with gravel deposits	RW-25-9.5	
10		Orange sand (SP) - Moist		
11			RW-25-12	
12		75% Recovery Dark brown to black clayey sand (SP-SW) - Odorous		
13		Brown sand (SP)		
14				
15		Dark brown to black sandy clay with gravel (CL)		
16		100% Recovery Black to grey sandy clay (CL) - with organic matter		
17				
18		Organic sand (SP) - Moist		
19		Grey gravel (GW) - with marine shells	RW-25-20	
20		Dark orange to black clayey sand		

Soil Conductivity (mS/m) Probe Log

0 60 120 180 240 300

Well Completion Details

Stickup: 1.74'

0.0'

11.0'

13.0'

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-124.60	Geologist:	EJF
Project:	Mobile	Easting:	40.63	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	16.63	Driller:	EMS
Date:	5-16-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: RW-25

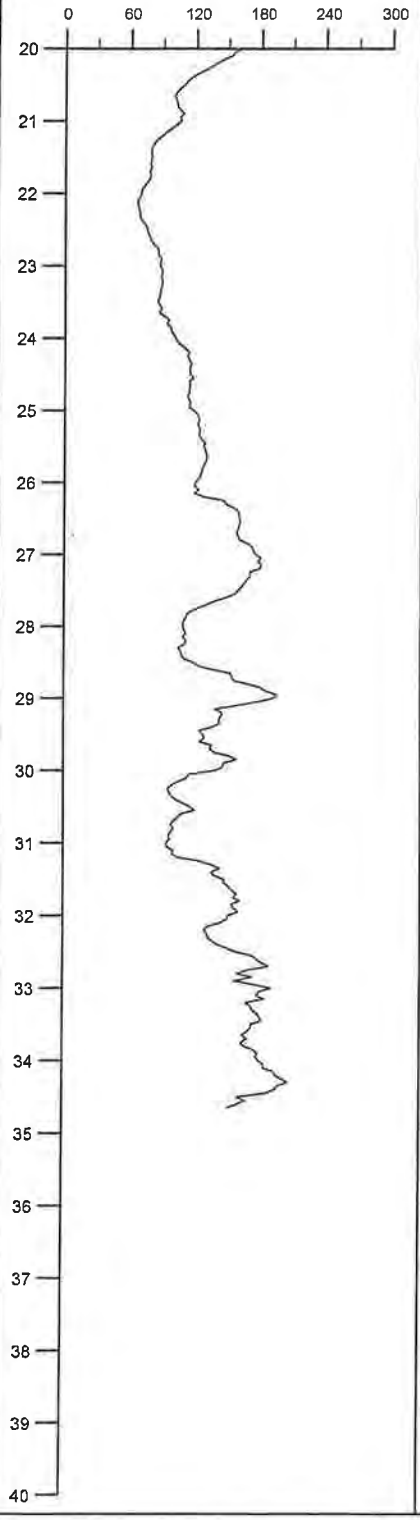
ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

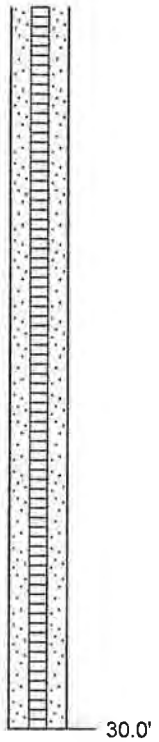
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		(SP-SC) 75% Recovery Dark grey to black clayey sand (SP-SC)	RW-25-21	
21				
22		Tan coarse sand (SW)		
23				
24		100% Recovery Dark grey to black clayey sand (SC) - Odorous	RW-25-25	
25				
26		Dark grey coarse sand (SW) - Moist		
27			RW-25-28	
28		50% Recovery Soft black clay (CH) - Moist		
29		Dark grey to black coarse sand (SW)		
30				
31		Black to dark grey clay (CH)		
32		End of boring		
33				
34				
35				
36				
37				
38				
39				
40				

SUBSURFACE PROFILE | SAMPLE

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	124.00	Geologist:	EJF
Project:	Mobile	Easting:	33.00	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:		Driller:	EMS
Date:	2-20-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

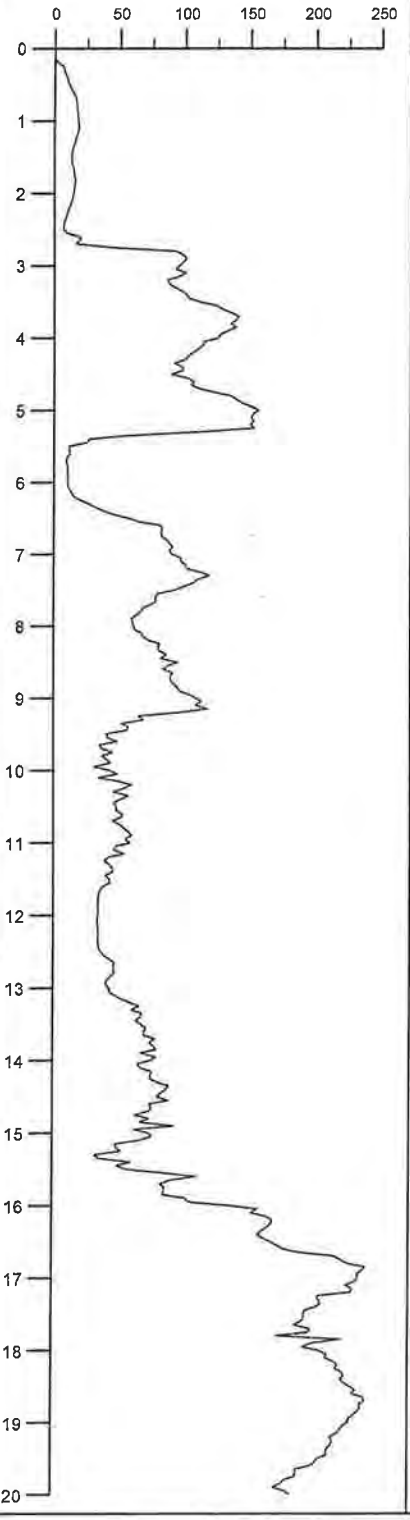
Boring No.: RW-27

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–2		Topsoil		0
2–3		Orange fine sand (SP)		0
3–4		Medium grey clay (CH)	RW-27-4	1.8
4–5		90% Recovery		1.4
5–6				2
6–7		Orange fine sand (SP)		
7–8		Medium dark brown organic silty clay (CL) - with sand traces - with wood debris	RW-27-8	8
8–9		100% Recovery Soft reddish brown clay (CH)		0.5
9–10		Dark brown to black organic silt (ML) - with shell hash - with wood debris		20
10–11				41
11–12		Orange fine to medium sand (SW)	RW-27-12	4
12–13		60% Recovery Light greyish brown fine sand with silt (SP)		0
13–14				
14–15		dark brown to black organic sandy silt (ML) - with shells - with wood debris	RW-27-16	1
15–16		100% Recovery Soft greenish grey clay (CH)		0
16–17				0
17–18		dark brown to black organic silty clay (CL)		0
18–19				
19–20			RW-27-20	0

Soil Conductivity (mS/m) Probe Log



Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	124.00	Geologist:	EJF
Project:	Mobile	Easting:	33.00	Drill Method:	GeoProbe
Location:	Mobile.AL	Grd. Elev:		Driller:	EMS
Date:	2-20-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

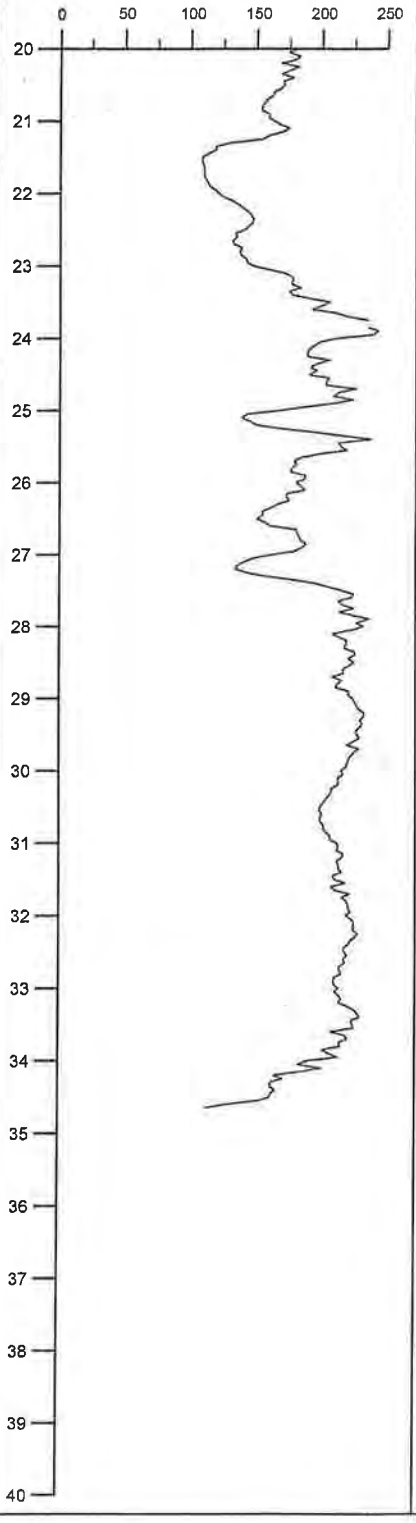
Boring No.: RW-27

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		Dark brown to black silt with sand (ML) *(Continued)*		0
21				
22		Black medium sand with silt (SP)		0
23			RW-27-24	45
24		75% Recovery Black medium sand with silt (SP) - Product on top		20
25				10
26		Light to dark grey silt with sand (ML)		13
27			RW-27-28	10
28				0
29				0
30		Soft to medium black silty clay (CL) - with peat - with organics	RW-27-30.5	0
31				
32		End of boring		0
33				
34				
35				
36				
37				
38				
39				
40				

Soil Conductivity (mS/m) Probe Log



Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	19.48	Geologist:	EJF
Project:	Mobile	Easting:	-60.19	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	15.67	Driller:	EMS
Date:	3-07-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

Boring No.: RW-28

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		100% Recovery Brown to black silty loam (Topsoil) (SP-SM) - with roots		
2		Orange fine sand with silt (SP)		
3		Stiff light greenish grey clay (CH) - Highly plastic	RW-28-4	
4		100% Reovery		
5		- with red to brown mottles		
6		Orange fine sand with silt (SP)		
7		Dark brown to black silt with sand (ML) - with traces of wood debris 90 % Recovery	RW-28-8	
8				
9		Dark brown to black silt (ML) - with wood debris		
10				
11		- Black - Moderate odor	RW-28-12	
12				
13		Light brown fine sand with silt(SP)		
14		Dark brown to black fine sand with silty (SP)		
15		Dark brown slighty silty to silty fine sand (SP-SM) - with some shell debris - Light odor 90% Recovery	RW-28-16	
16				
17		Soft light grey clay (CH)		
18		Brown to orangish brown fine sand with silt (SP) - No odor		
19		Light grey silt with clay (ML) - Friable - with shell debris	RW-28-20	
20				

Soil Conductivity (mS/m) Probe Log

0 80 160 240 320 400

Well Completion Details

-3.0'

Stickup: 1.45'

0.0'

11.0'

13.0'

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	19.48	Geologist:	EJF
Project:	Mobile	Easting:	-60.19	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	15.67	Driller:	EMS
Date:	3-07-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

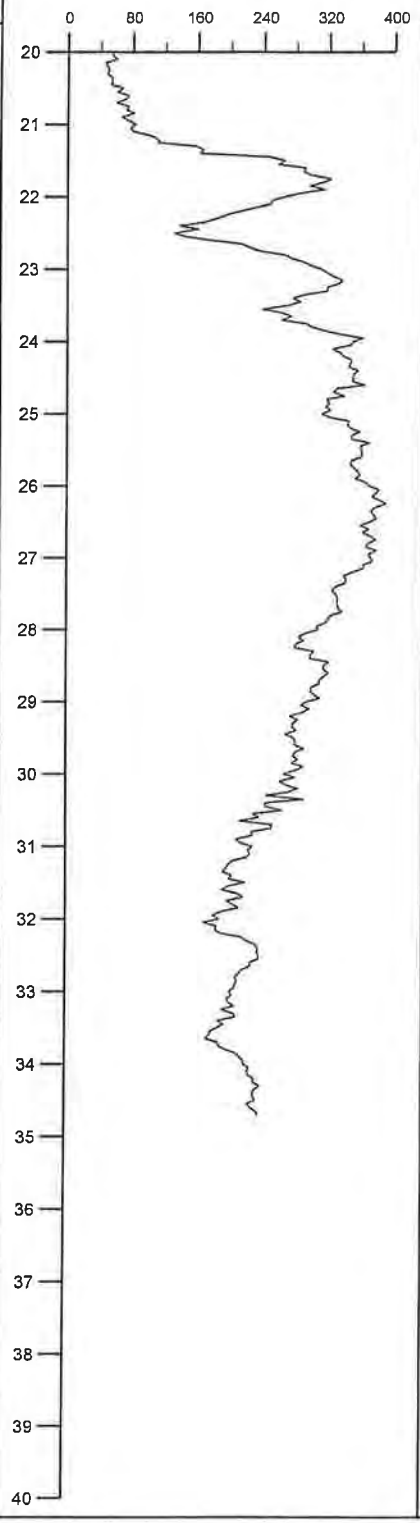
Boring No.: RW-28

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

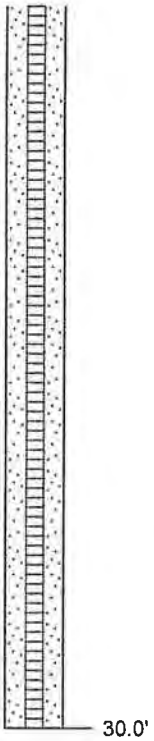
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20		75% Recovery		
21		Light grey silt with clay (ML) - Friable - with shell debris		
22				
23		Black organic silt (ML) - with large amounts of wood - with heavy odor	RW-28-24	
24				
25		100% Recovery Soft black organic silt (ML) - Heavy odor - Some visible goldish liquid condensate on inside of sample tube.		
26				
27			RW-28-28	
28				
29		100% Recovery		
30		- Greenish condensate		
31		- Heavy odor		
32			RW-28-32	
		End of boring		
33				
34				
35				
36				
37				
38				
39				
40				

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	391.54	Geologist:	EJF
Project:	Mobile	Easting:	-118.18	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	6.73	Driller:	EMS
Date:	5-23-01	Total Depth (ft. bls)	16.0	Checked By:	EJF

Page: 1 of 2

Boring No.: RW-29

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

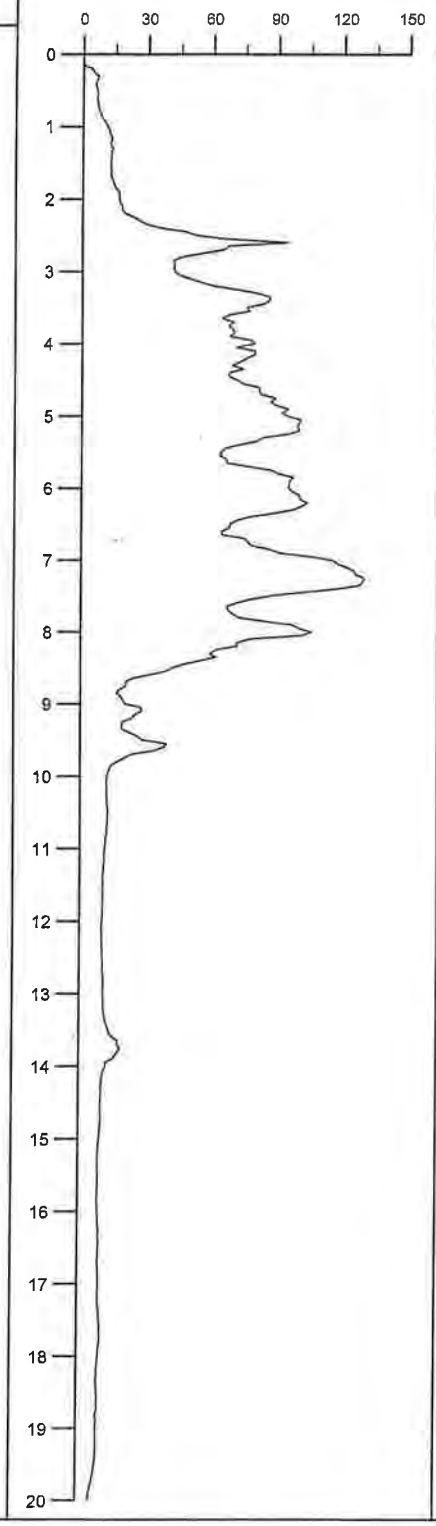
SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification
0		Ground Surface
		75% Recovery Orange silty sand with gravel (SM)
1		
2		Orangegravelly fine sand (SW) - with organic matter - black deposits - Marine gravel deposits at 3.5'
3		
4		100% Recovery Light greenish grey and orange clay (CH) - with gravel, organic matter, and black colorations from 4' to 4.5' - with red and orange sand deposits at 5'
5		
6		
7		- with red and orange sand deposits at 6.5'
8		Greyish geen, orange, and tan sandy clay (CL) 80% Recovery
9		Soft greenish grey clay (CH) - with orange striations
10		Orangish brown clayey sand (SP-SC)
11		Coarse orange and brown sand (SW) - moist
12		
13		
14		90% Recovery - moist to wet
15		
16		End of boring
17		
18		
19		
20		

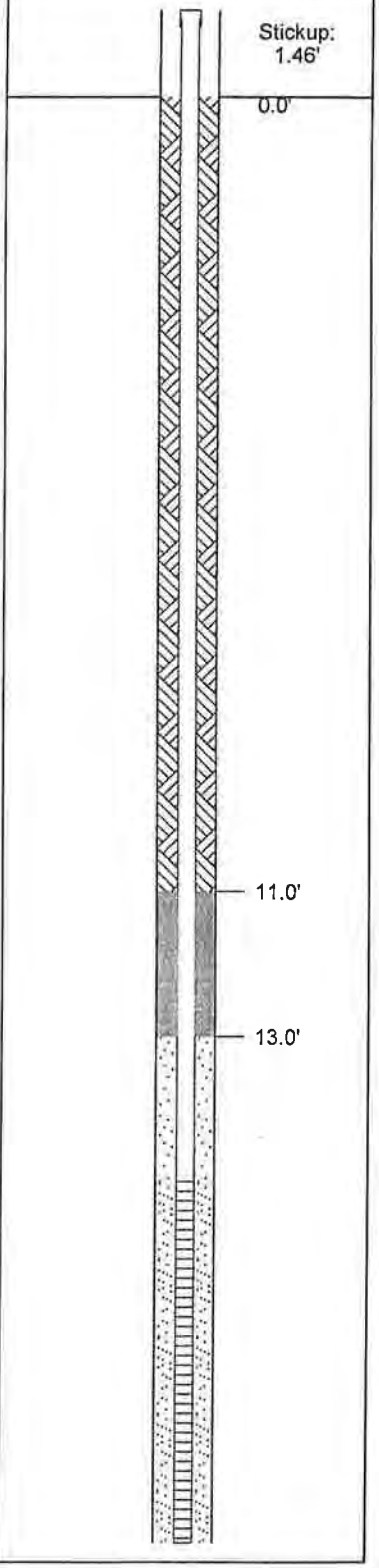
SAMPLE

Lab Sample No.	PID (ppm)
	0.1
RW-29-2	
	0
	1
RW-29-6	
	0.8
	0.5
RW-29-10	0.7
	0.9
	0.8
RW-29-14	
	0.6

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	391.54	Geologist:	EJF
Project:	Mobile	Easting:	-118.18	Drill Method:	GeoProbe
Location:	Mobile.AL	Grd. Elev:	6.73	Driller:	EMS
Date:	5-23-01	Total Depth (ft. bls)	16.0	Checked By:	EJF

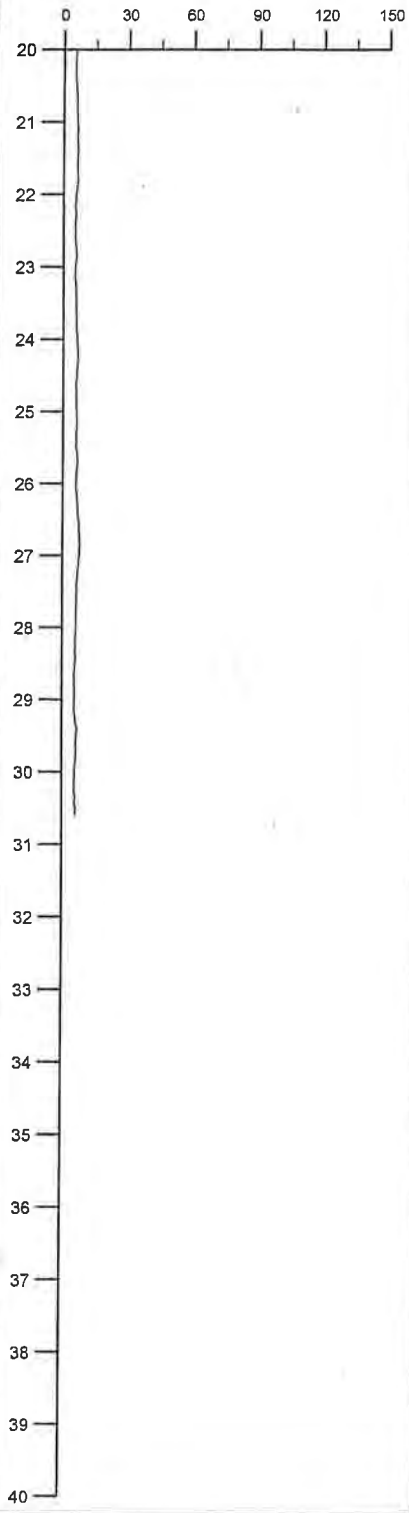
Page: 2 of 2

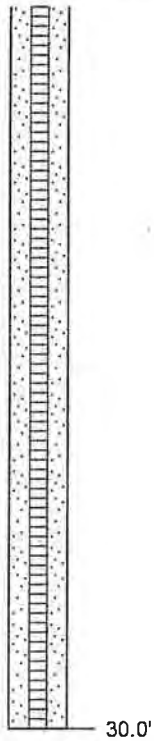
Boring No.: RW-29

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		





CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	478.16	Geologist:	EJF
Project:	Mobile	Easting:	-147.88	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	6.83	Driller:	EMS
Date:	5-16-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Page: 1 of 2

Boring No.: RW-30

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		50% Recovery Dark brown loamy soil (Topsoil) with organic (root) matter		0
1		Brown sand with gravel (SW) - with organic matter - dry		
2		Orange sand (SP) - with organic matter		
3		Tan to black gravelly clay (CL-GW) - with organic matter	RW-30-4	
4				
5		100% Recovery Light brown to black sand (SP) - moist to wet	RW-30-6	0
6				
7		Reddish tan clayey sand (SC) - with black speckles		
8				0
9		100% Recovery Tan, grey, and orange sandy clay with gravel (CL) - with black speckles		
10				
11		Tan, grey, and orange clayey sand with gravel (SC) - Odorous	RW-30-12	
12		100% Recovery Orange sand (SP) - Wet - Odorous		
13				
14				
15		Light brown to orange sand (SP) - Moist to wet - with odor	RW-30-16	0.6
16				
17		100% Recovery Light brown to orange sand (SP) - moist to wet - with odor		
18				
19				
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

Stickup: 1.51'

0.0'

11.0'

13.0'

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	478.16	Geologist:	EJF
Project:	Mobile	Easting:	-147.88	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	6.83	Driller:	EMS
Date:	5-16-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Page: 2 of 2

Boring No.: RW-30

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20–40		10% Recovery Tan fine sand (SP) - Sample collected from scraping inside of tube	RW-30-22		0 20 40 60 80 100	
		10% Recovery - Sample tube stuck. sample collected from scraping inside of tube	RW-30-28			30.0'
28		End of boring				

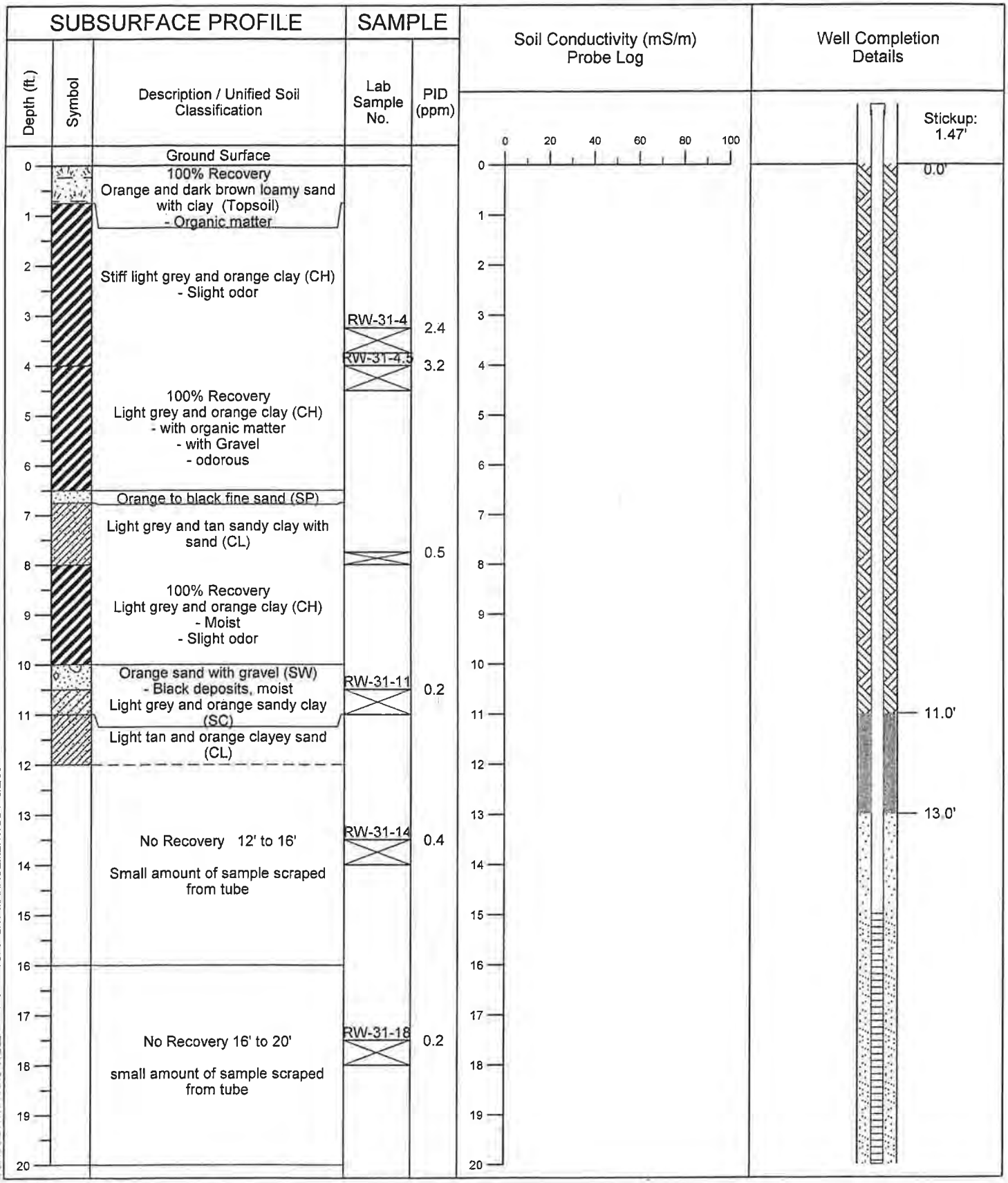
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	534.26	Geologist:	EJF
Project:	Mobile	Easting:	-96.05	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.6	Driller:	EMS
Date:	5-17-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Page: 1 of 2

Boring No.: RW-31

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



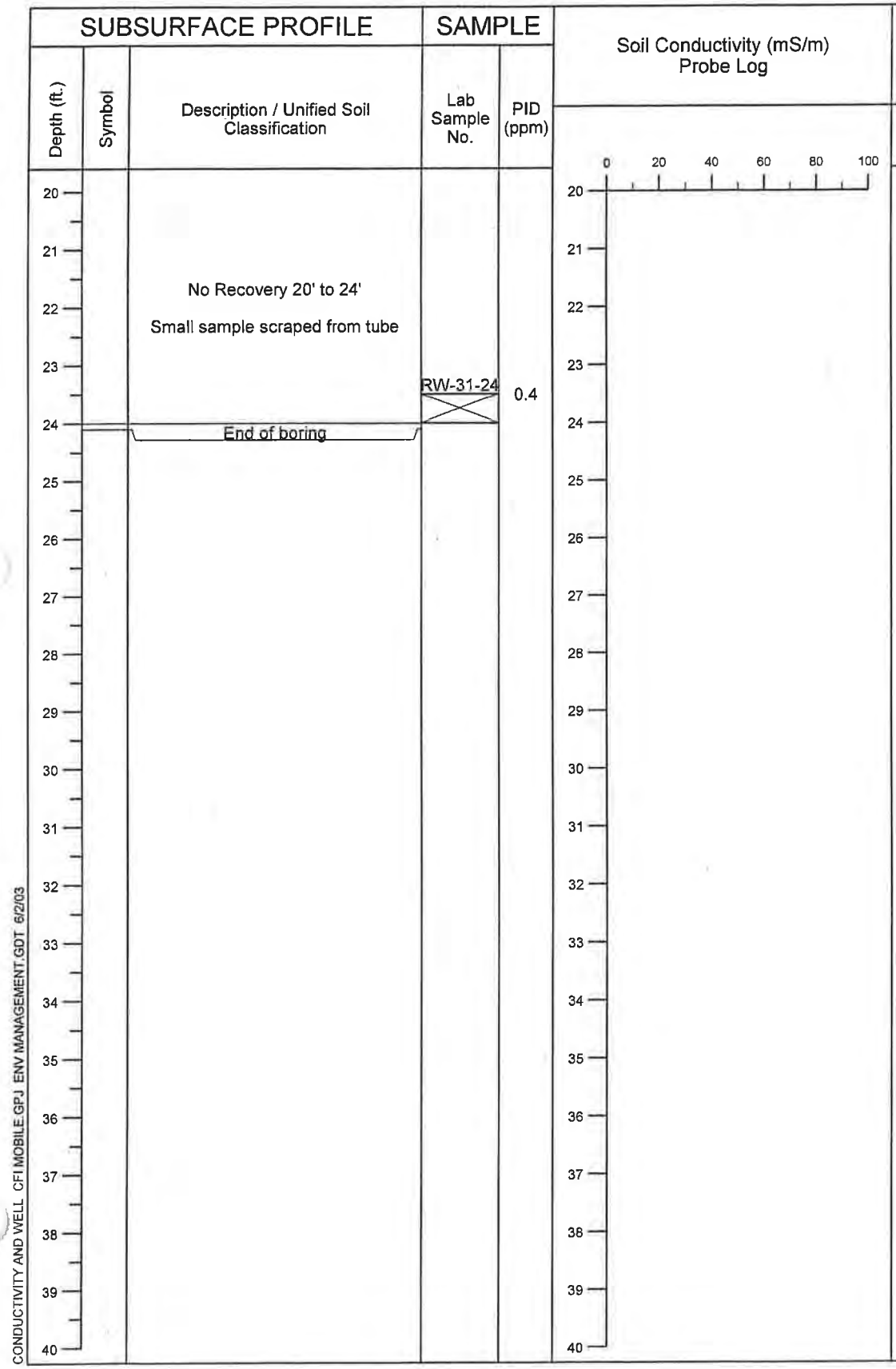
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	534.26	Geologist:	EJF
Project:	Mobile	Easting:	-96.05	Drill Method:	GeoProbe
Location:	Mobile.AL	Grd. Elev:	4.6	Driller:	EMS
Date:	5-17-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Boring No.: RW-31

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20		No Recovery 20' to 24'				
21		Small sample scraped from tube				
22						
23			RW-31-24	0.4		
24		End of boring				
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						



Project No.:	CFI	Northing:	455.82	Geologist:	EJF
Project:	Mobile	Easting:	-90.42	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.47	Driller:	EMS
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

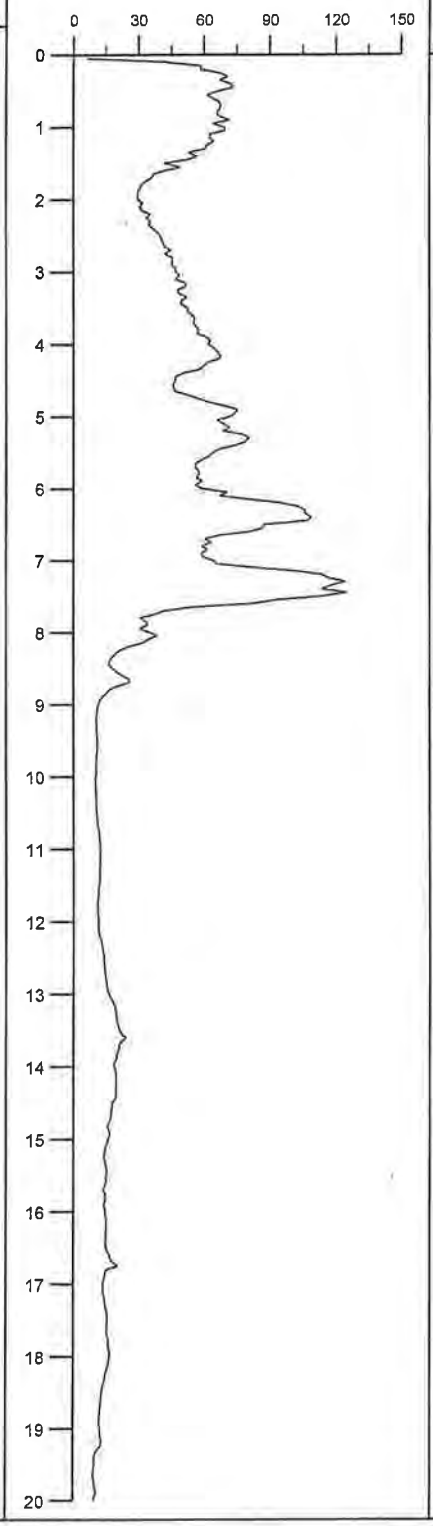
Page: 1 of 2

Boring No.: RW-32

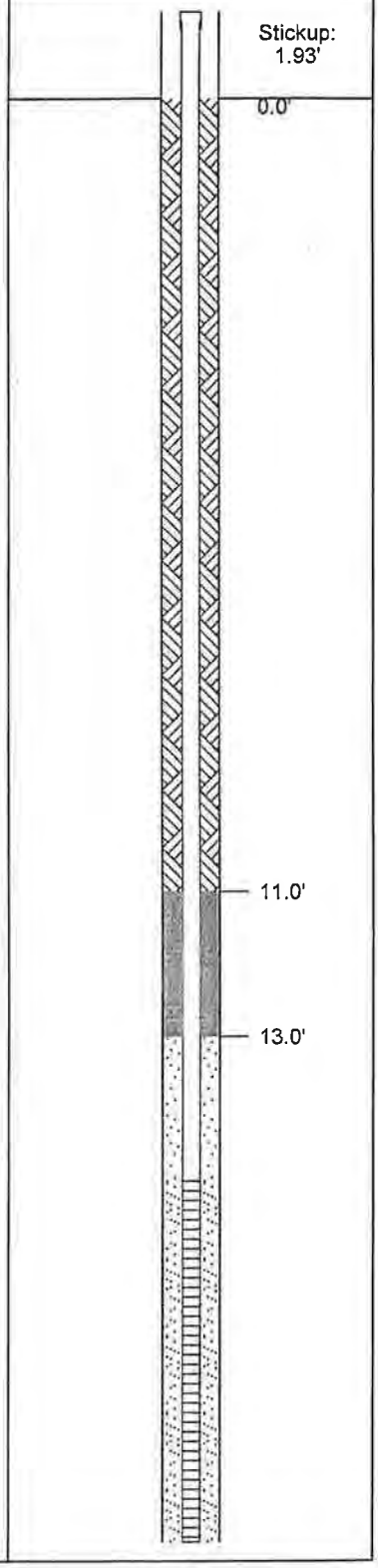
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
		Ground Surface		
0		100% Recovery Brittle grey, orange, and tan clay (CL) - Dry - Root material		
1			RW-32-2	
2		Greenish grey clay (CL) - with orange and red striations - Brittle to moist - No odor		
3				1
4				0.9
5		100% Recovery Greenish grey, and orange silty clay (CL) - with moist red and orange sand deposits	RW-32-6	
6				
7				
8				0.9
9		100% Recovery Orange coarse sand (SW) - moist to wet		
10				
11		Soft light greenish grey and orange clay (CH) - Sample tube stuck: placed soil into zip-lock bag for PID (no odor) - Lab sample is a mixture of soil recovered from stuck tube.	RW-32-12	0.9
12				
13		50% Recovery Orangish brown coarse sand with clay pockets (SW) - Wet		
14				
15			RW-32-16	0.5
16				
17		No recovery		
18				
19				
20				

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	455.82	Geologist:	EJF
Project:	Mobile	Easting:	-90.42	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.47	Driller:	EMS
Date:	5-23-01	Total Depth (ft. bls)	24.0	Checked By:	EJF

Boring No.: RW-32

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20					0 30 60 90 120 150	
21		Coarse sand (SW) -Wet				
22		Lost tube (stuck in Geoprobe pipe)				
23		Lab sample scraped from bottom of tube	RW-32-24	0.4		
24		PID taken from sampling jar End of boring				30.0'
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-220.05	Geologist:	EJF
Project:	Mobile	Easting:	98.66	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	13.06	Driller:	JG/DS
Date:	8-21-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

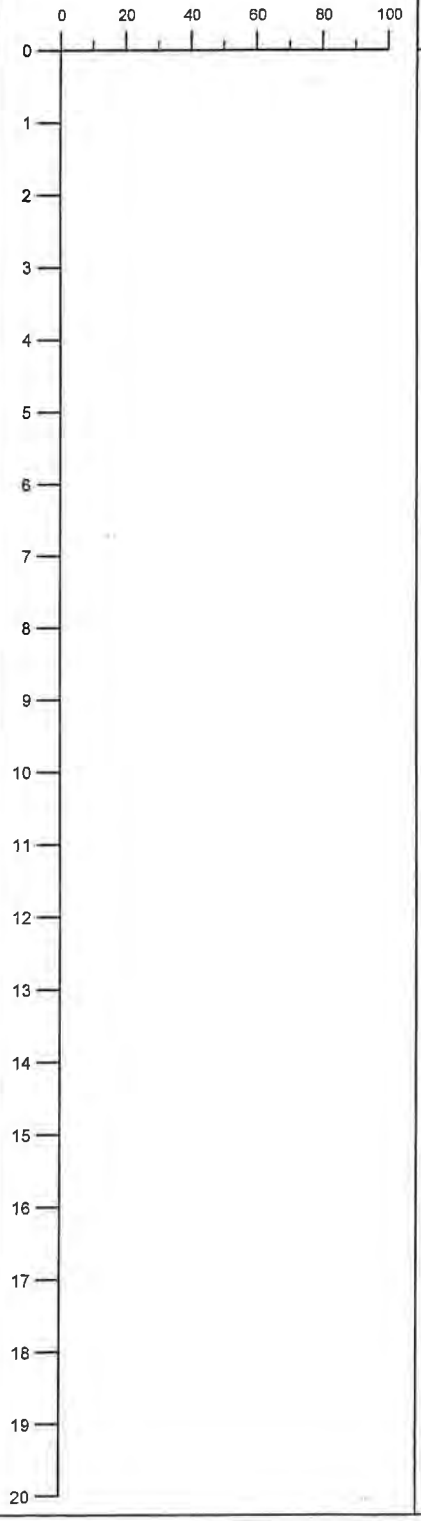
Page: 1 of 2

Boring No.: RW-33

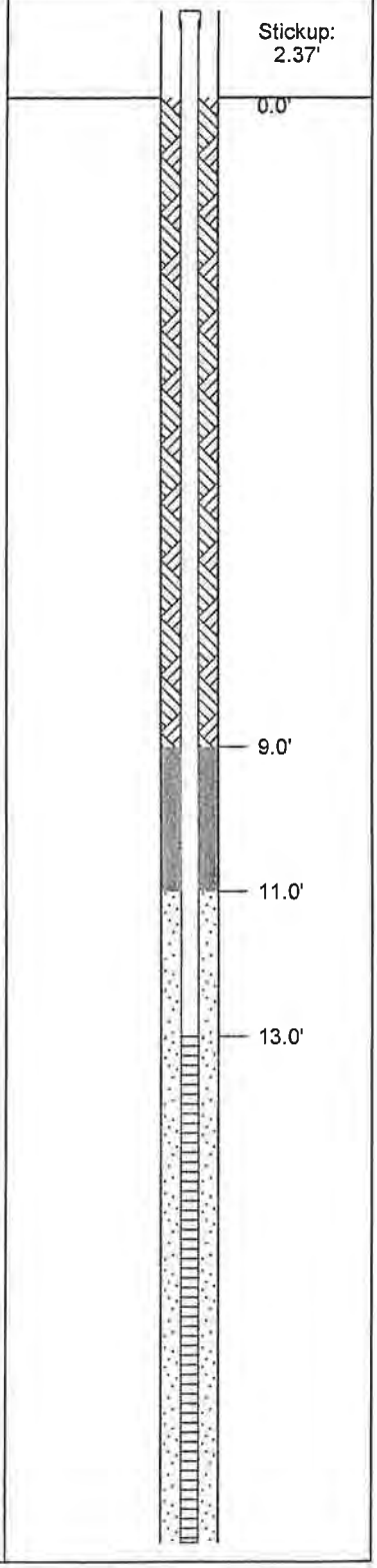
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–1		Dark brown to black sandy silt (Topsoil)		0
2		Dark orange fine sand with silt (SP)	RW-33-3	0
3–5		Stiff light grey clay (CH) - Mottled with orangish brown		0 0
6		Dark orange fine sand with silt (SP)		0
7–8		Dark greyish brown clayey silt with sand (ML) - with shells	RW-33-8	4
9		Orangish brown silty fine sand (SP-SM) - with organic		9
10				0
11			RW-33-12	8
12–13		Light brown fine sand with silt (SP)		3
14				60
15		Black, red, and dark brown mottled silty fine sand (SP-SM) - with organics	RW-33-16	30
16				4
17–18		Light brown fine sand with silt (SP)		25
19–20		Black clayey silt (ML) - Mottled red, brown, grey, and yellow sandy silt	RW-33-20	52

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-220.05	Geologist:	EJF
Project:	Mobile	Easting:	98.66	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	13.06	Driller:	JG/DS
Date:	8-21-01	Total Depth (ft. bls)	28.0	Checked By:	EJF

Page: 2 of 2

Boring No.: RW-33

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20–21				0
21–22				0
22–23		50% Recovery Dark grey to black silty medium sand (SP-SM)		
23–24			RW-33-24	
24–25				82
25–26		Light grey fine to medium sand with silt (SW) - with trace organics		54
26–27				
27–28		- saturated with cresote 27' to 28'	RW-33-28	120
28		End of boring		

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

28.0'

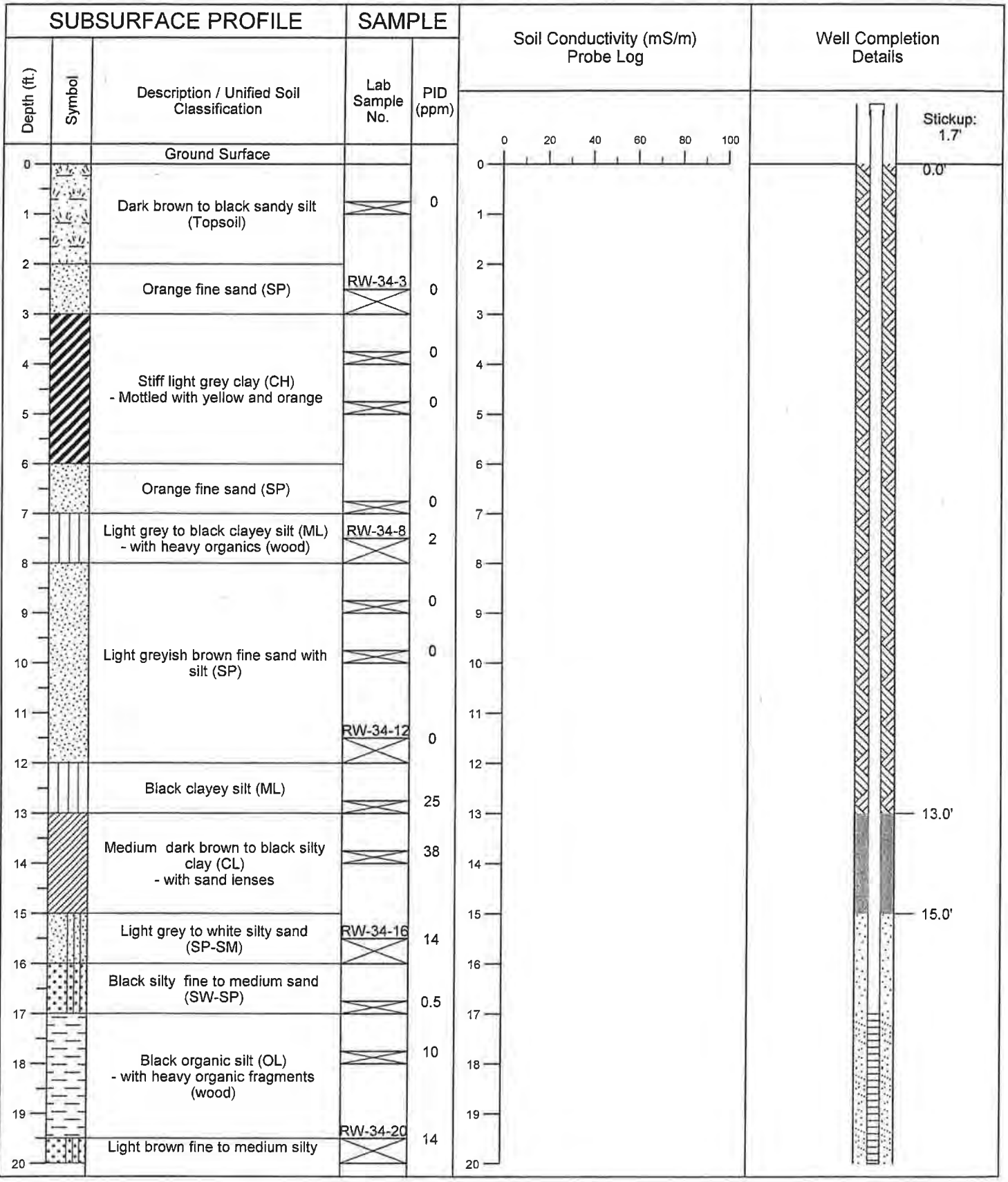
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-153.85	Geologist:	EJF
Project:	Mobile	Easting:	166.55	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.87	Driller:	JG/DS
Date:	8-21-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

Boring No.: RW-34

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-153.85	Geologist:	EJF
Project:	Mobile	Easting:	166.55	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	12.87	Driller:	JG/DS
Date:	8-21-01	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: RW-34

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20–28		sand (SW-SM)		124
				92
		Black to grey medium sand with silt (SP)	RW-34-24	25
				105
				156
			RW-34-28	220
28–30		Soft to medium dark brown to black silty clay (CL)		28
				7
30–32		Soft to medium dark green silty clay (CL) - with organics	RW-34-32	1
32		End of boring		

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

32.0'

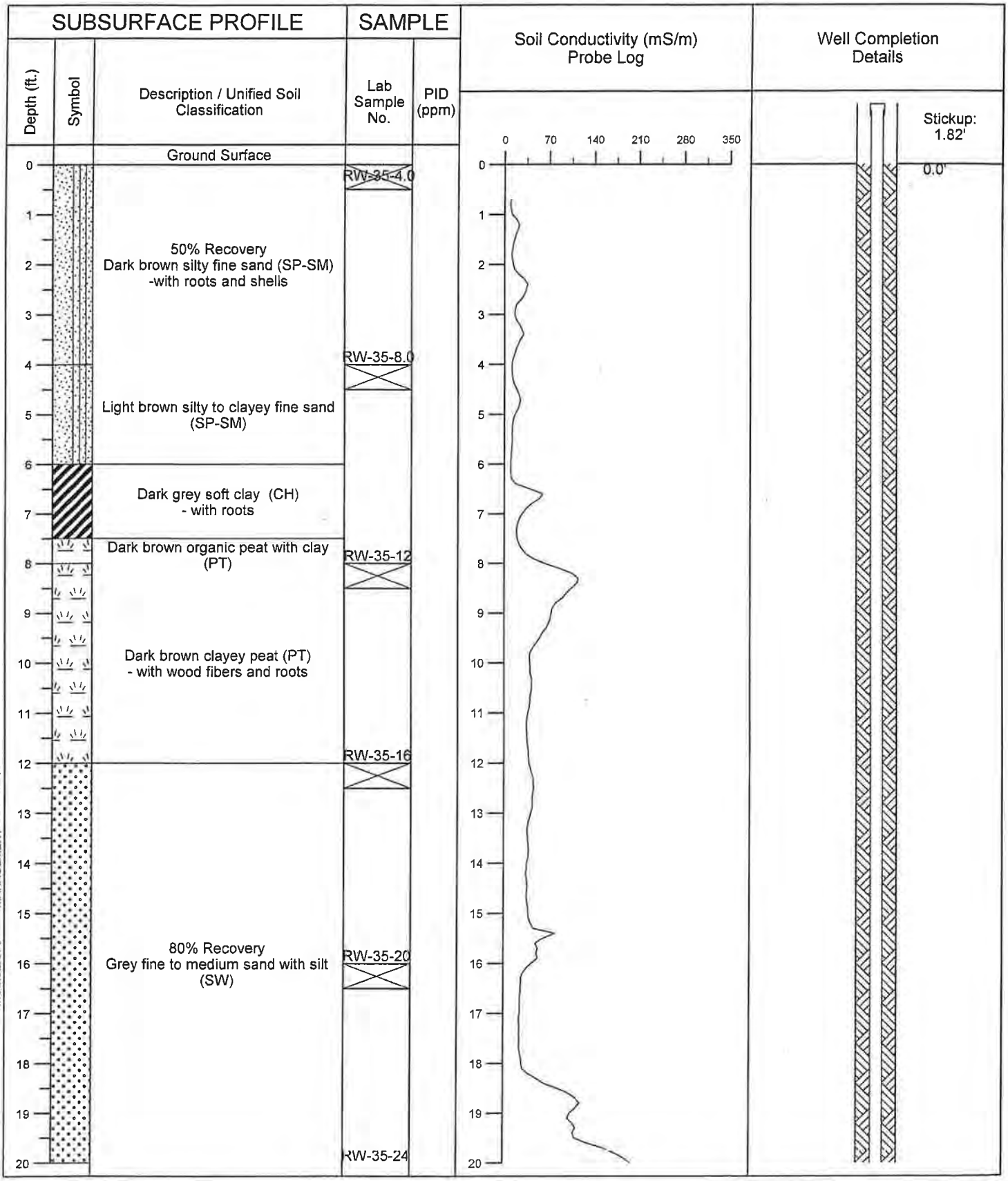
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-165.92	Geologist:	EJF
Project:	Mobile	Easting:	269.57	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.48	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

Page: 1 of 3

Boring No.: RW-35

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

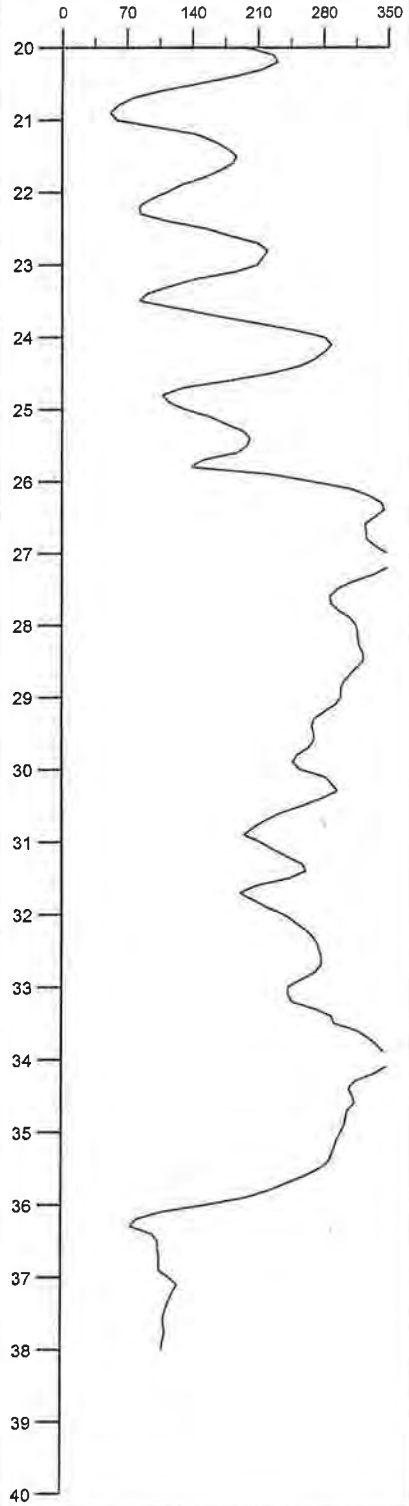
Project No.:	CFI	Northing:	-165.92	Geologist:	EJF
Project:	Mobile	Easting:	269.57	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.48	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

Boring No.: RW-35

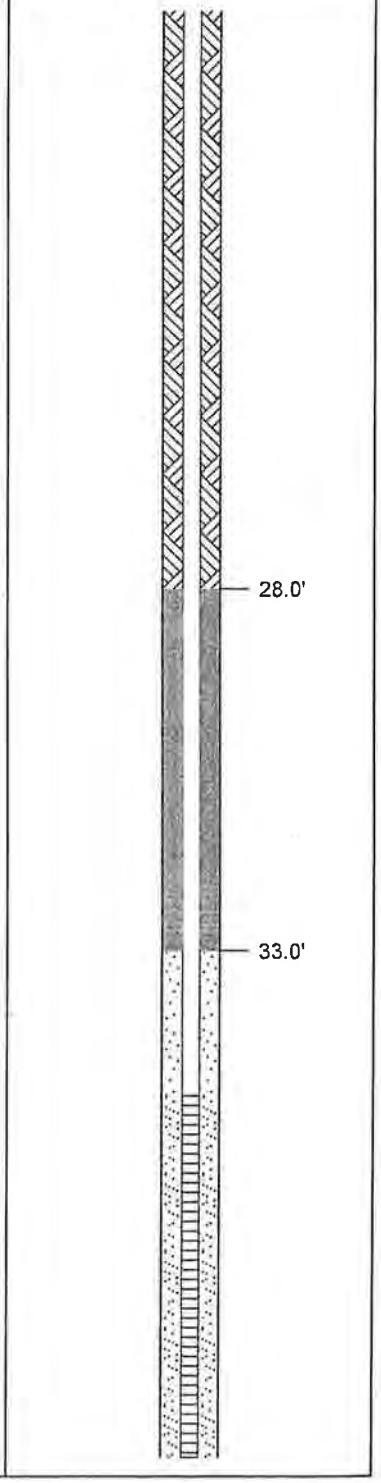
ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20–24		50% Recovery (20'-24') Light to moderate creosote odor	RW-35-28	
27–28		Dark brown soft organic clayey peat (PT)	RW-35-32	
28–32		Light grey and brown soft silty clay (CL)		
30–32		Grey stiff silty clay with pebbles (CL)	RW-35-36	
32–36		Light brown to light grey fine to very fine sand (SP) - Water saturated - Light to moderate cresote odor		
36		End of boring		

Soil Conductivity (mS/m) Probe Log



Well Completion Details



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

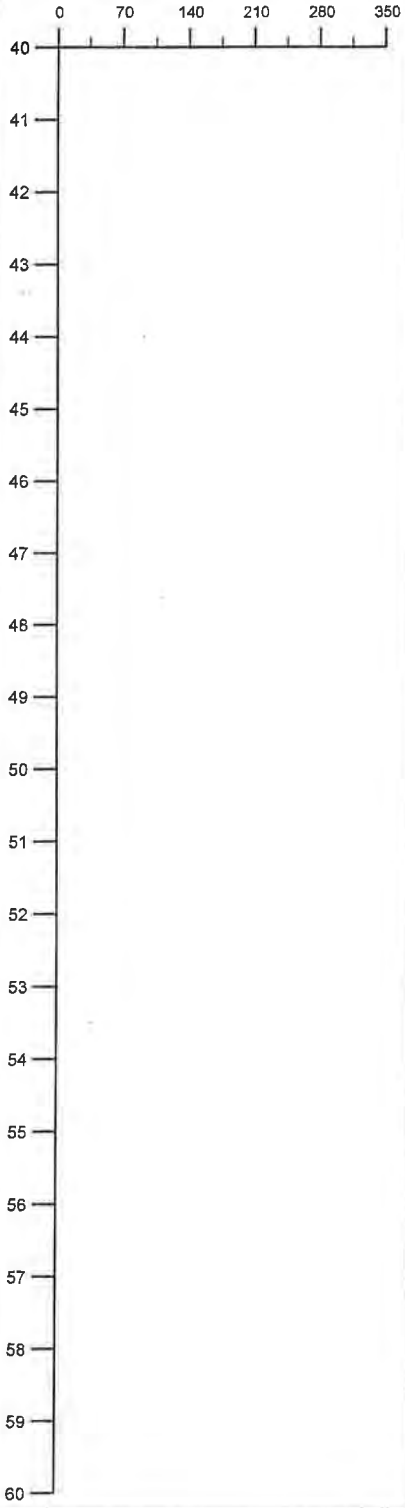
Project No.:	CFI	Northing:	-165.92	Geologist:	EJF
Project:	Mobile	Easting:	269.57	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.48	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

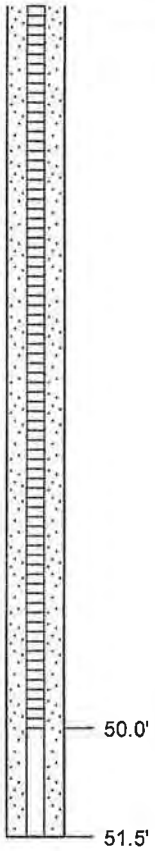
Page: 3 of 3

Boring No.: RW-35

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		





CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-57.51	Geologist:	EJF
Project:	Mobile	Easting:	269.95	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.29	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

Boring No.: RW-36

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
1		Dark brown fine sand with silt (SP) - with roots		
2				
3		Black creosote saturated fine sand (SP)		
4		Dry light brown to grey soft to stiff clay with silt (CH) - grading to grey	RW-34-4.0	
5		Black creosote stained fine to medium sand (SW)		
6		Soft to stiff light brown to grey clay (CH) - grading to fine sand (light odor)		
7			RW-34-8.0	
8		Fine sand (SP) - with slight odor		
9				
10		Dark brown to black organic peat with clay (PT) - with wood fibers		
11			RW-34-12	
12		Light grey fine to medium sand (SW) - grading to light grey slightly silty fie to medium sand		
13				
14				
15			RW-34-16	
16				
17				
18		- Moderate to heavy odor - Saturared with water		
19			RW-34-20	
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

Stickup: 1.97'

0.0'

Project No.:	CFI	Northing:	-57.51	Geologist:	EJF
Project:	Mobile	Easting:	269.95	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.29	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

Page: 2 of 3

Boring No.: RW-36

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20–23		- Moderate to heavy odor - Saturared with water *(Continued)*	RW-34-24		0 20 40 60 80 100	
24–27		Dark grey soft grading to stiff clay with sand (CH)	RW-34-28			
27–28		Dark brown organic peat (PT)				
28–34		Light grey soft grading to stiff silty clay (CL)	RW-34-32			28.0'
34–35		Soft light grey clay (CH)				33.0'
35–36		Light grey fine sand (SP)	RW-34-36			
36		End of boring				

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

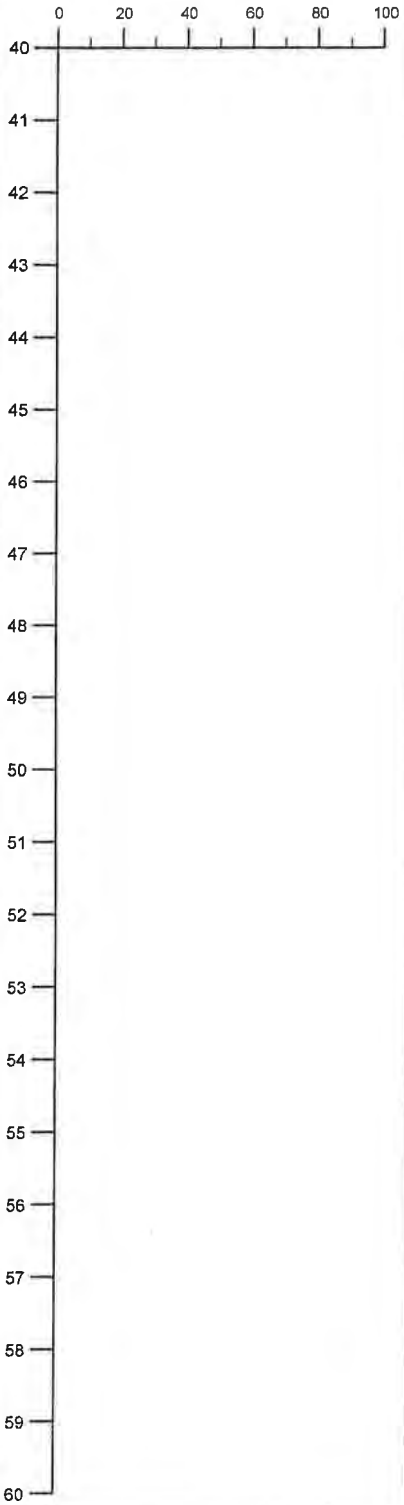
Project No.:	CFI	Northing:	-57.51	Geologist:	EJF
Project:	Mobile	Easting:	269.95	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.29	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

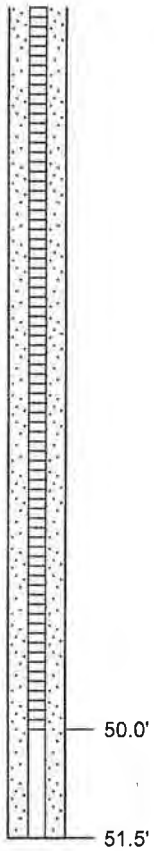
Page: 3 of 3

Boring No.: RW-36

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		





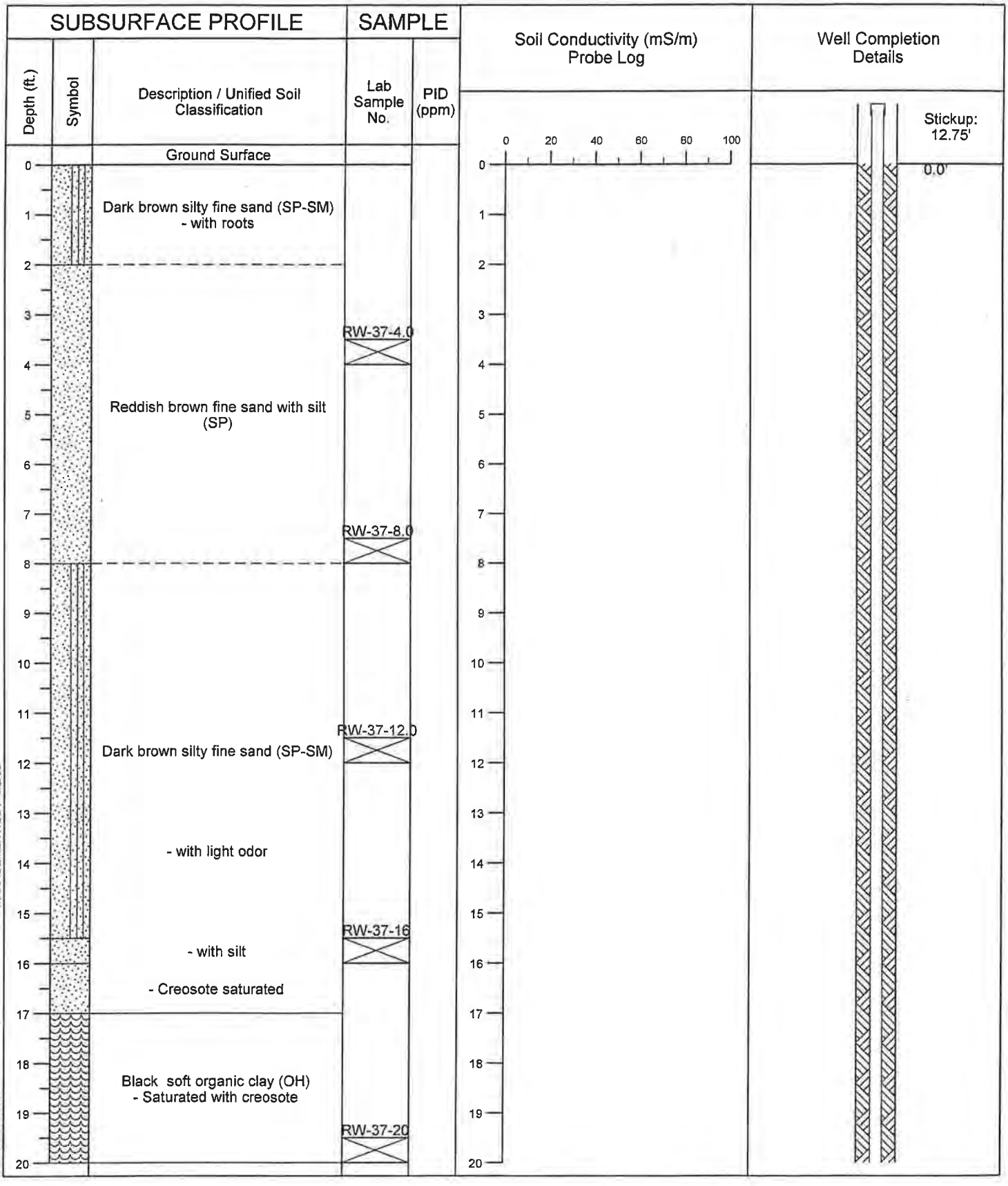
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	72.26	Geologist:	EJF
Project:	Mobile	Easting:	279.40	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.33	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

Page: 1 of 3

Boring No.: RW-37

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



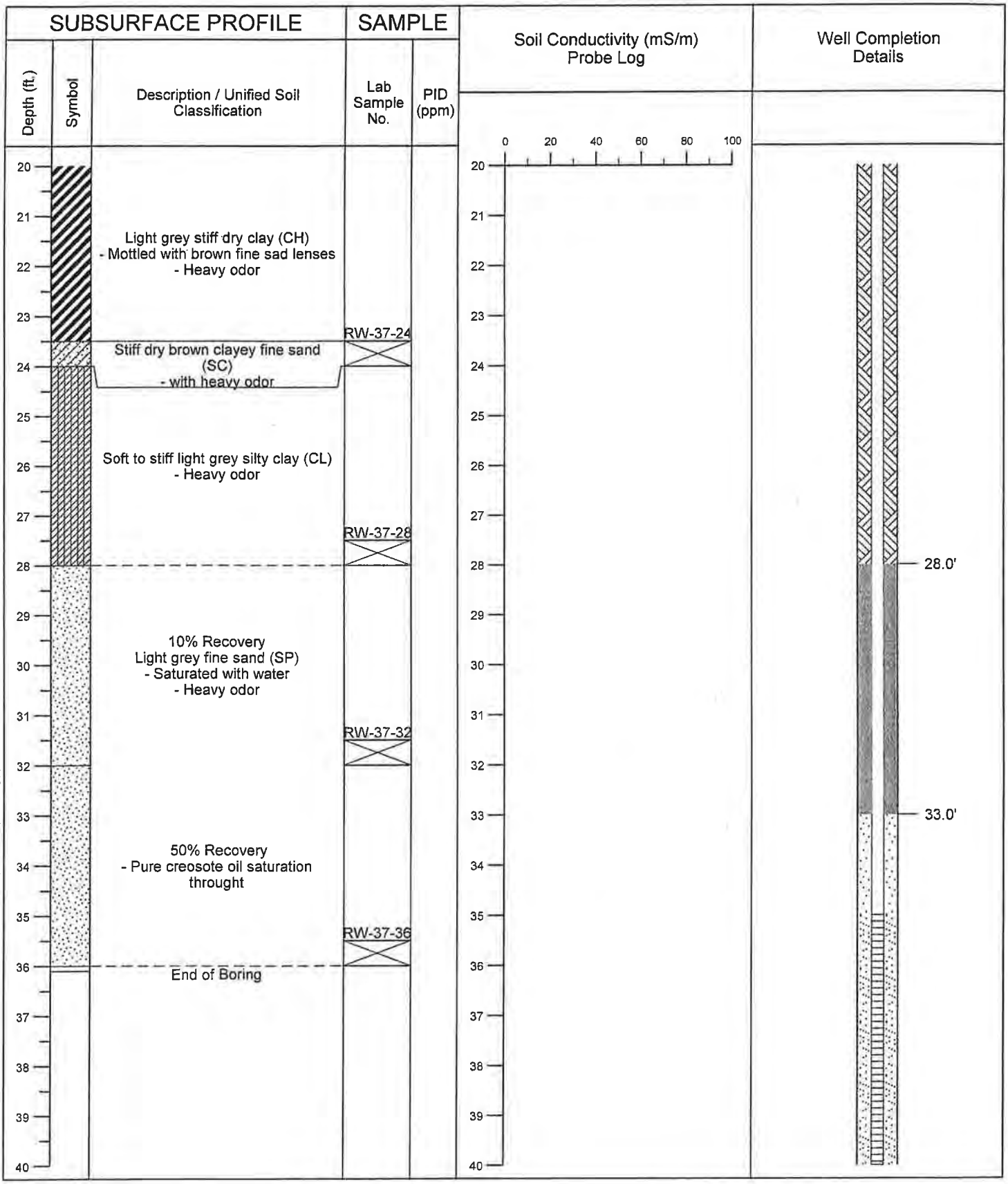
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	72.26	Geologist:	EJF
Project:	Mobile	Easting:	279.40	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.33	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

Page: 2 of 3

Boring No.: RW-37

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

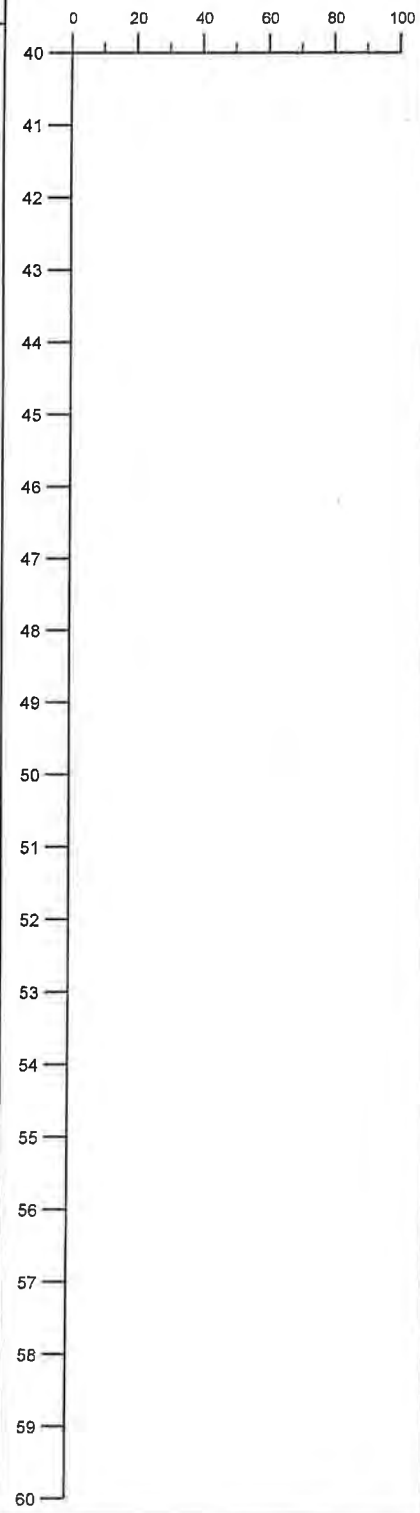
Project No.:	CFI	Northing:	72.26	Geologist:	EJF
Project:	Mobile	Easting:	279.40	Drill Method:	Mud Rotorary
Location:	Mobile,AL	Grd. Elev:	4.33	Driller:	Walker Hill
Date:	11-28-01	Total Depth (ft. bls)	51.5	Checked By:	EJF

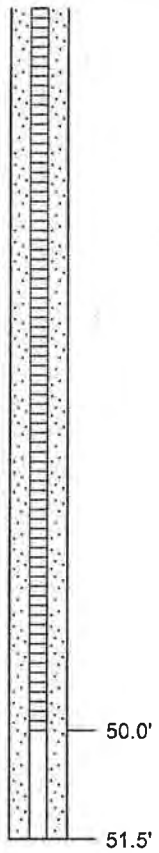
Page: 3 of 3

Boring No.: RW-37

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		





CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-316.75	Geologist:	SF
Project:	Mobile	Easting:	101.54	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	9.4	Driller:	JG
Date:	12-16-02	Total Depth (ft. bls)	12.0	Checked By:	EJF

Page: 1 of 1

Boring No.: SB-38

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		60% Recovery Firm brown silty sand with gravel (SW-SM)		0.0
1				
2		Dense red clayey fine sand (SC-SP)		0.0
3				
4			SB-38-4	0.0
5		60% Recovery Dense tan fine sand (SP)		
6				0.0
7				0.0
8			SB-38-8	0.0
9		60% Recovery Firm tan fine sand (SP) - saturated at 9'		0.0
10				0.0
11		Dense light grey well graded sand (SW)	SB-38-12	0.0
12		Total Depth		
13				
14				
15				
16				
17				
18				
19				
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-299.50	Geologist:	SF
Project:	Mobile	Easting:	103.18	Drill Method:	GeoProbe
Location:	Mobile.AL	Grd. Elev:	10.47	Driller:	JG
Date:	12-16-02	Total Depth (ft. bls)	12.0	Checked By:	EJF

Page: 1 of 1

Boring No.: SB-39

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		80% Recovery Road Base Rock		0.0
1				
2		Very dense red clayey medium sand (SC-SP)		0.0
3				
4			SB-39-4	0.0
5				0.0
6		70% Recovery Dense tan silty fine sand (SM-SP)		0.0
7				
8			SB-39-8	0.0
9		Dense tan silty fine sand (SM-SP)		0.0
10				0.0
11		Medium brown silty clay (CL)		0.0
11		Firm tan silty sand (SP-SM)	SB-39-12	0.0
12		Dense dark grey well graded sand (SW)		
12		Total Depth 12'		
13				
14				
15				
16				
17				
18				
19				
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-276.08	Geologist:	SF
Project:	Mobile	Easting:	101.84	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	10.37	Driller:	JG
Date:	12-16-02	Total Depth (ft. bls)	12.0	Checked By:	EJF

Page: 1 of 1

Boring No.: SB-40

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
1		100% Recovery Dense black silty fine sand (SM) - with organics	SB-40-1	130
2				75
3		Dense red clayey fine sand (SP-SC)		5
4		Medium pink and grey clay (CH)		
5		100% Recovery	SB-40-4.5	5
6		Dense tan fine sand (SP)		0.0
7				0.0
8				0.0
9		100% Recovery Dense tan fine sand (SP)		0.0
10				0.0
11		Light grey shell hash (SW)		0.0
12		Dense dark grey well graded sand (SW)		
		Total Depth 12'		

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

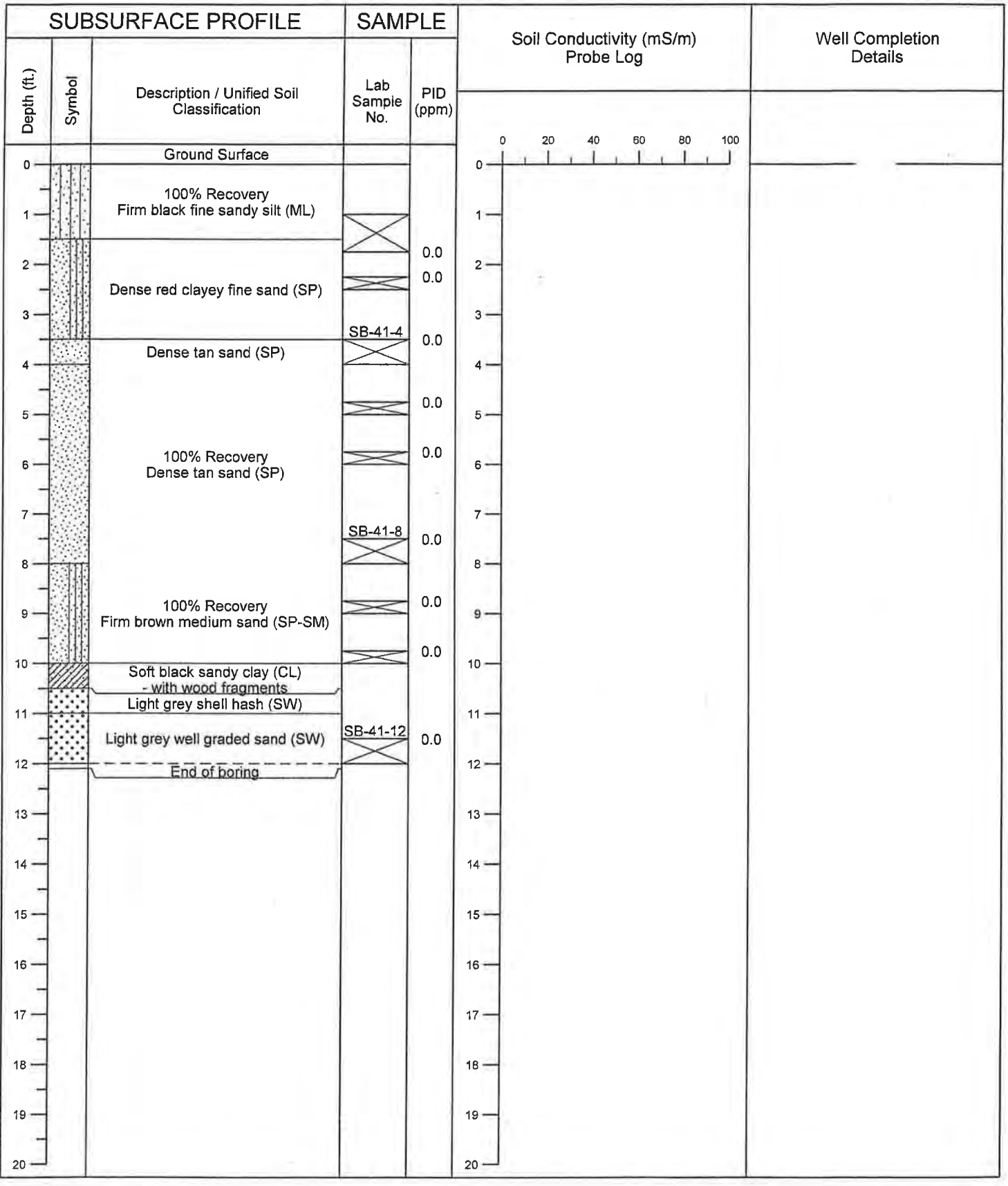
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-277.94	Geologist:	SF
Project:	Mobile	Easting:	91.37	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	10.15	Driller:	JG
Date:	12-16-02	Total Depth (ft. bls)	12.0	Checked By:	EJF

Page: 1 of 1

Boring No.: SB-41

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-300.37	Geologist:	SF
Project:	Mobile	Easting:	86.26	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	10.1	Driller:	JG
Date:	12-16-02	Total Depth (ft. bls)	12.0	Checked By:	EJF

Page: 1 of 1

Boring No.: SB-42

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		95% Recovery Base Rock (GW)		0.0
1				
2		Dense red clayey fine sand (SP-SC)		0.0
3			SB-42-4	
4		Dense tan fine sand with silt (SP)		0.0
5				0.0
6		100% Recovery Dense tan fine sand with silt (SP)		0.0
7				0.0
8			SB-42-8	0.0
9		100% Recovery Dense tan fine sand with silt (SP)		0.0
10		Dense tan silty fine sand (SP-SM)		0.0
11		Stiff reddish brown sandy clay (CL)		0.0
12		Dense tan silty fine sand (SP-SM)	SB-42-12	0.0
12		End of boring		

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

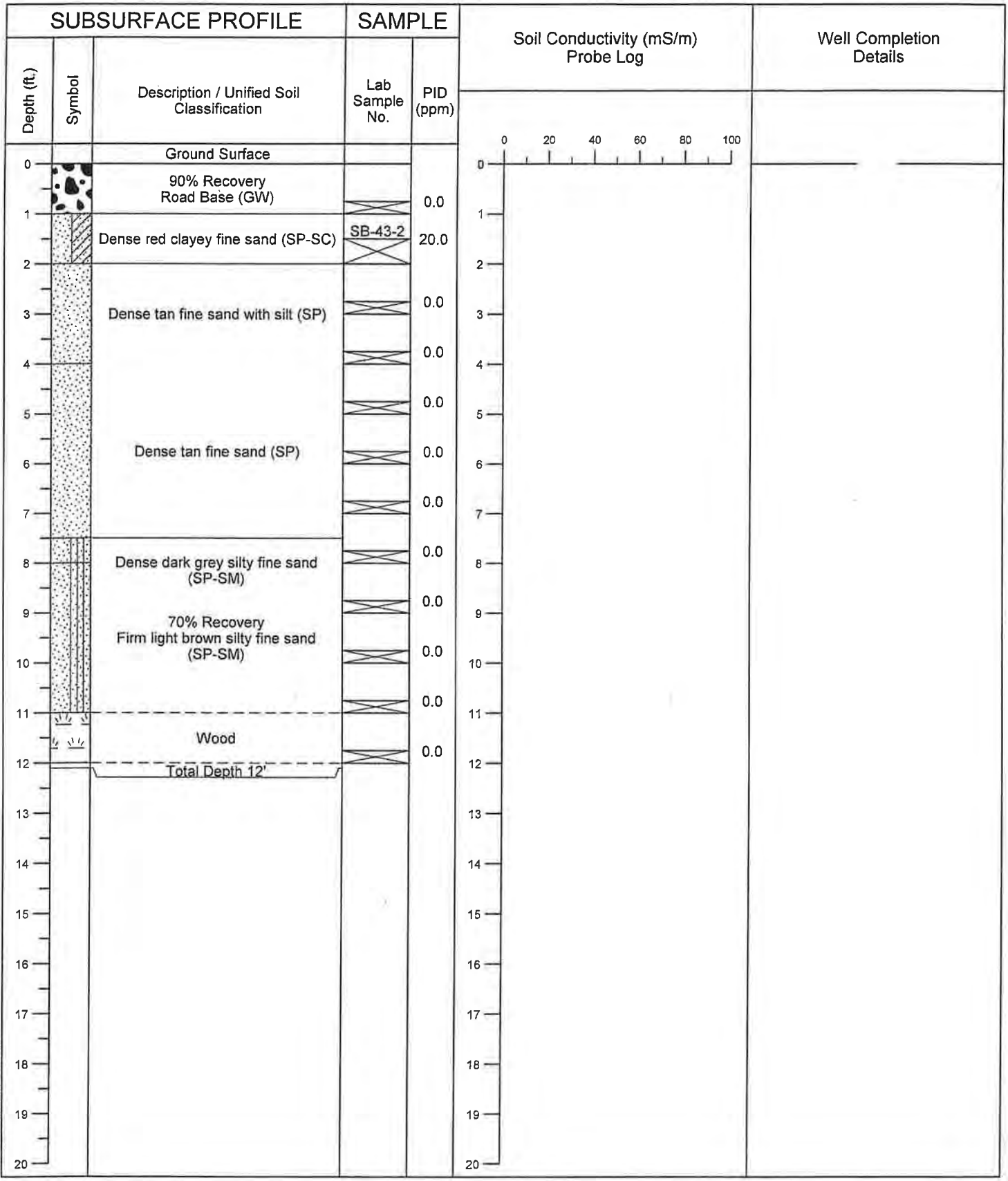
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	-310.75	Geologist:	SF
Project:	Mobile	Easting:	89.67	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	9.54	Driller:	JG
Date:	12-16-02	Total Depth (ft. bls)	12.0	Checked By:	EJF

Page: 1 of 1

Boring No.: SB-43

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	118.20	Geologist:	EJF
Project:	Mobile	Easting:	291.44	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.34	Driller:	JF
Date:	2-18-02	Total Depth (ft. bls)	28.0	Checked By:	EJF

Boring No.: SB-44

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–3		Dark brown to black silty fine sand (SP-SM) - with wood fragments and organics lenses	SB-44-4	
3–7		Orange fine sand (SP)		
7–11		Dense orangish brown sand with clay (SP)	SB-44-8	
11–12		Orangish brown slightly silty to silty fine to medium sand (SW-SM)	SB-44-12	
12–15		Medium to stiff grey clay with sand (CH) - with moderate creosote odor		
15–16		Orangish brown slightly silty to silty fine to medium sand (SW-SM)	SB-44-16	
16–18		Soft grey clay with sand (CL) - with light to moderate creosote odor		
18–20		Grey fine sand with silt (SP) - with noxious odor	SB-44-20	

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	118.20	Geologist:	EJF
Project:	Mobile	Easting:	291.44	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.34	Driller:	JF
Date:	2-18-02	Total Depth (ft. bls)	28.0	Checked By:	EJF

Page: 2 of 2

Boring No.: SB-44

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20–23		- with peat lenses at 22' - Heavy creosote odor and saturation	SB-44-24	
24–28		Stiff greyish green clay (CH) - with reddish brown mottles - Moderate to heavy cresote odor	SB-44-28	
28		End of boring		

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

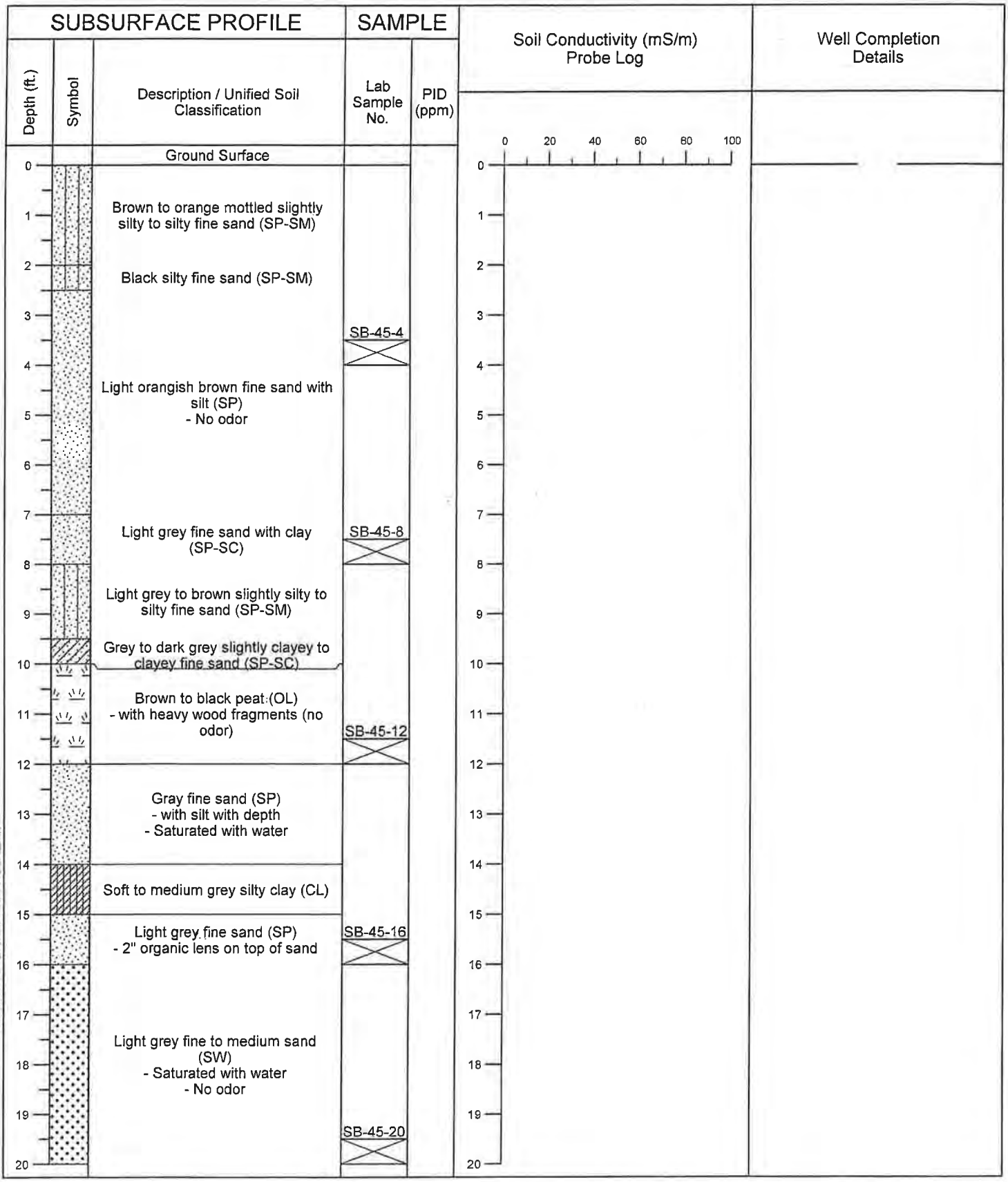
CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	206.65	Geologist:	EJF
Project:	Mobile	Easting:	303.30	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.53	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	36.0	Checked By:	EJF

Page: 1 of 2

Boring No.: SB-45

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

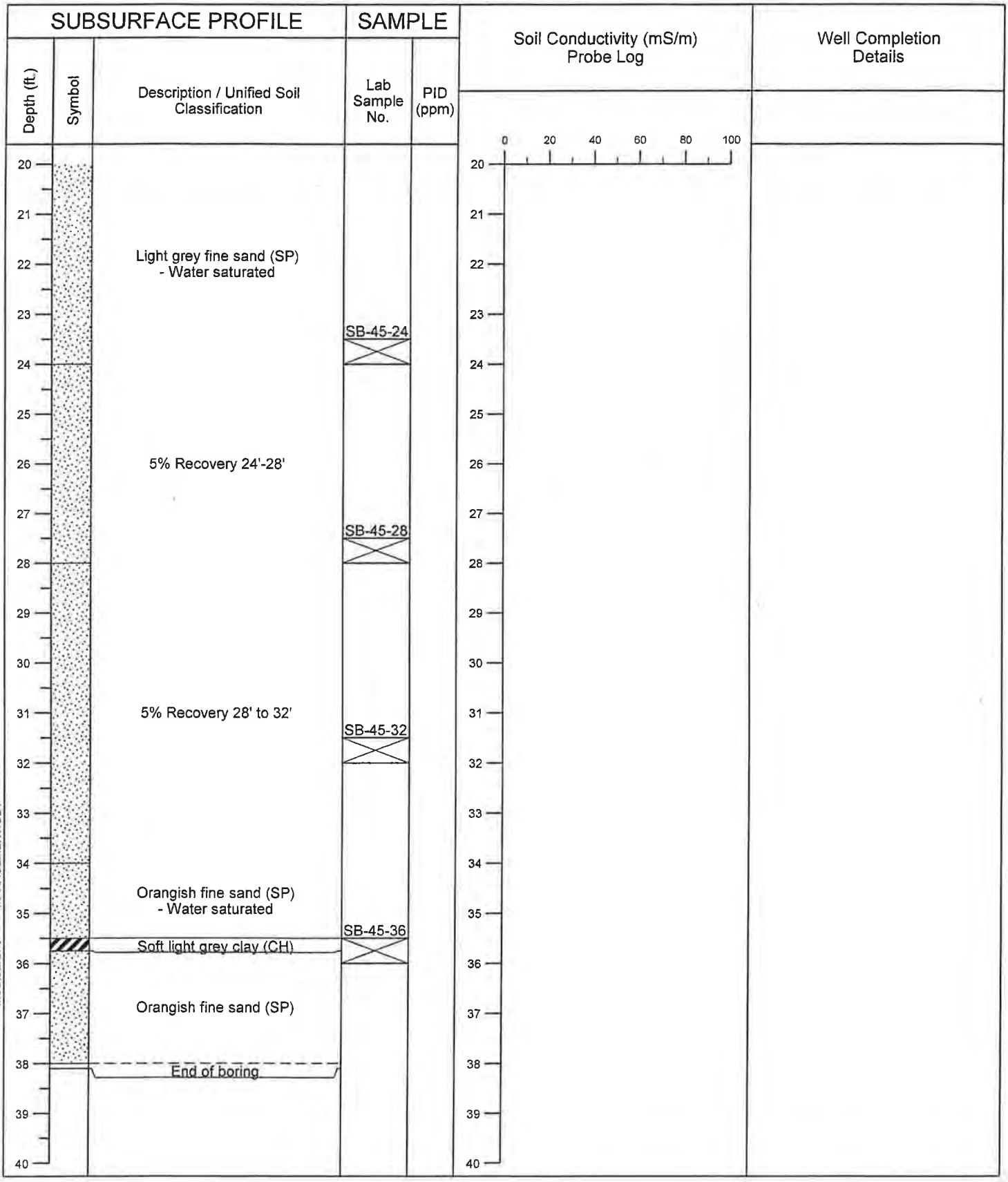


CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	206.65	Geologist:	EJF
Project:	Mobile	Easting:	303.30	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.53	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	36.0	Checked By:	EJF

Boring No.: SB-45

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

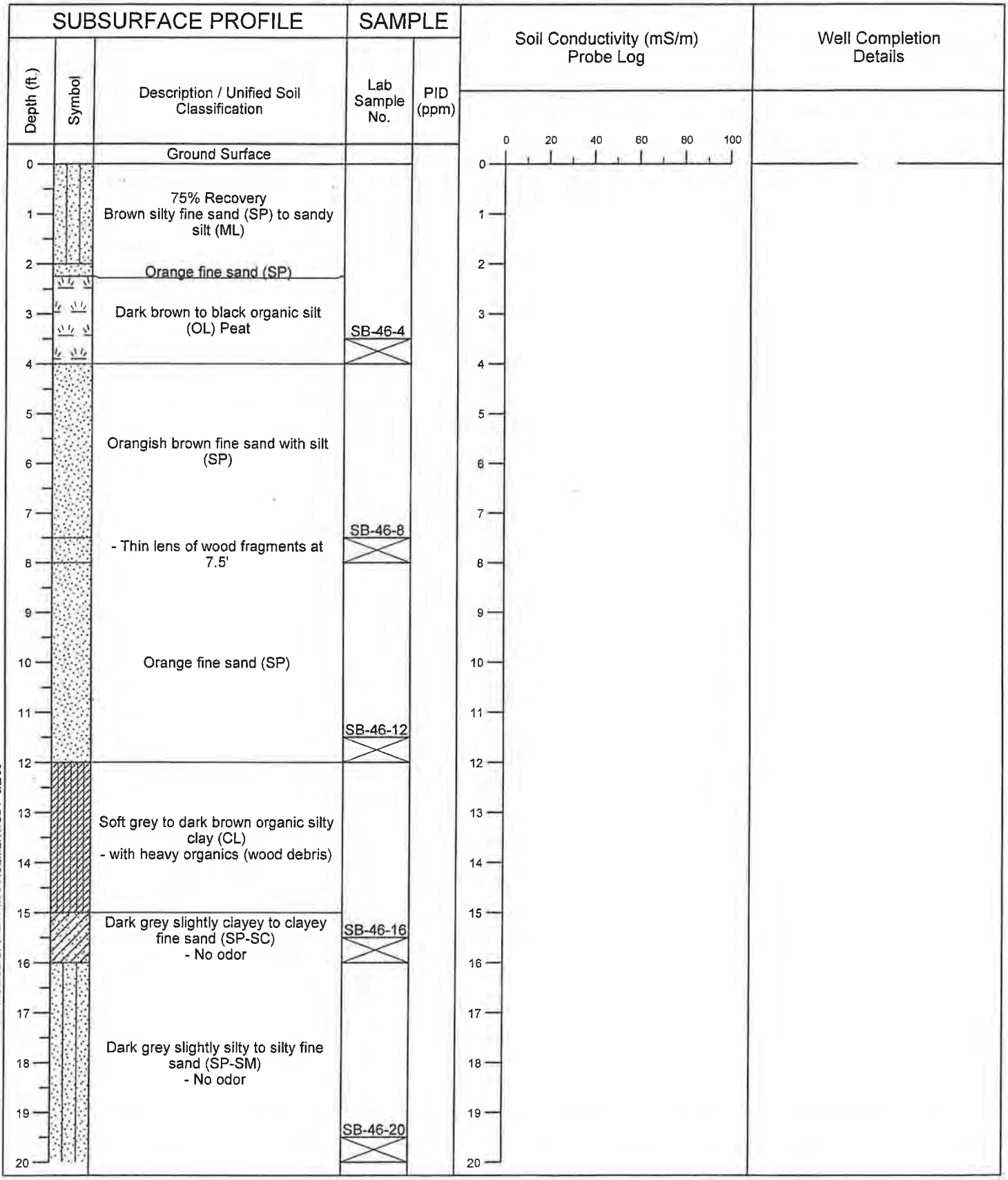


CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	110.57	Geologist:	EJF
Project:	Mobile	Easting:	390.59	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.15	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	36.0	Checked By:	EJF

Boring No.: SB-46

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	110.57	Geologist:	EJF
Project:	Mobile	Easting:	390.59	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.15	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	36.0	Checked By:	EJF

Page: 2 of 2

Boring No.: SB-46

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20–25		Dark grey slightly silty to silty fine sand (SP-SM) - No odor *(Continued)*	SB-46-24	
26		Lens of organics (wood debris) (OL)		
26–28		Medium to stiff light grey to orangish brown clay with sand (CL)	SB-46-28	
28–32		2% Recovery Light orangish brown fine sand with clay (SP) - No odor	SB-46-32	
32–36		Light orangish brown fine sand with silt (SP)	SB-46-36	
36		End of boring		

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	114.26	Geologist:	EJF
Project:	Mobile	Easting:	339.50	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.11	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: SB-47

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–2.5		dark grey slightly silty to silty fine sand (SP-SM) - with organics		
2.5–3		Thin lens of charred wood debris		
3–4		Dark grey slightly silty to slightly clayey fine sand (SP) - No odor	SB-47-4	
4–8		Light brown to orangish brown slightly silty fine sand (SP)	SB-47-8	
8–9.5		Light grey fine sands		
9.5–10		Grey soft clay (CH)		
10–12		Dark brown organic clayey peat (OL) - No odor	SB-47-12	
12–15.5		Medium to stiff dark brown silty clay (CL)	SB-47-16	
15.5–20		Dark gey silty fine sand (SP-SM)	SB-47-20	

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	114.26	Geologist:	EJF
Project:	Mobile	Easting:	339.50	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.11	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: SB-47

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20		Stiff light greenish grey clay (CH) - No odor	SB-47-24		0 20 40 60 80 100	
27		- with sand	SB-47-28			
28		Light grey fine sand (SP) - water saturated				
31			SB-47-32			
32		End of boring				
40						

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	65.47	Geologist:	EJF
Project:	Mobile	Easting:	329.50	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.15	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: SB-48

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–3		Dark brown silty fine sand (SP-SM)		
3–4		Orange fine sand with silt (SP)	SB-48-4	
4–7				
7		- Water saturated	SB-48-8	
8–11				
11		Soft dark brown organic clayey silt (ML) to silty clay (CL) PEAT - Organic odor	SB-48-12	
12–13		Orange fine sand with silt (SP)		
14–15		Black creosote saturated silty fine sand (SP-SM) - with organics - Heavy odor		
15–16		Loose dark brown oraganic clayey silt (ML) - Heavy odor	SB-48-16	
16–17		Dark grey slightly silty fine sand (SP) - Slight odor		
18–19		Grey fine sand with silt (SP) - Water saturated - Moderate odor		
19			SB-48-20	
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

Project No.:	CFI	Northing:	65.47	Geologist:	EJF
Project:	Mobile	Easting:	329.50	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.15	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: SB-48

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20		10% Recovery - No odor				
23			SB-48-24			
24		5% Recovery - No odor				
27			SB-48-28			
28		Sitff light grey and orange mottled slighty sandy clay to clay (CH) - No odor				
31			SB-48-32			
32		End of boring				
40						

0 20 40 60 80 100

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	61.57	Geologist:	EJF
Project:	Mobile	Easting:	373.59	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	3.78	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

Boring No.: SB-49

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0		Dark grey silty fine sand (SP-SM)		
3			SB-49-4	
4		Light grey fine sand (SP)		
4		30% Recovery Dark brown clay with sand (CL)		
7			SB-49-8	
8		Light grey fine sand with silt (SP)		
8		Soft to medium light to dark grey silty clay (CL)		
11		Dark brown organic clayey silt (OL) Peat - with wood fragments	SB-49-12	
12		Soft grey clay (CH)		
13		Dark brown organic silt (OL) Peat - with wood fragments		
15		Soft dark greish brown silty clay (CL) - No odor	SB-49-16	
16		Dark grey silty fine sand (SP-SM) - Water saturated - No odor		
19			SB-49-20	
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	61.57	Geologist:	EJF
Project:	Mobile	Easting:	373.59	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	3.78	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: SB-49

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20–23		Dark grey silty fine sand (SP-SM) - Water saturated - No odor *(Continued)*	SB-49-24	
27–28		Loose dark grey clayey fine sand (SP-SC) - No odor	SB-49-28	
29–31		Medium light grey clay with sand (CH)		
31–32		Light grey fine to medium sand (SW)	SB-49-32	
32		End of boring		

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	57.54	Geologist:	EJF
Project:	Mobile	Easting:	417.55	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	3.04	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

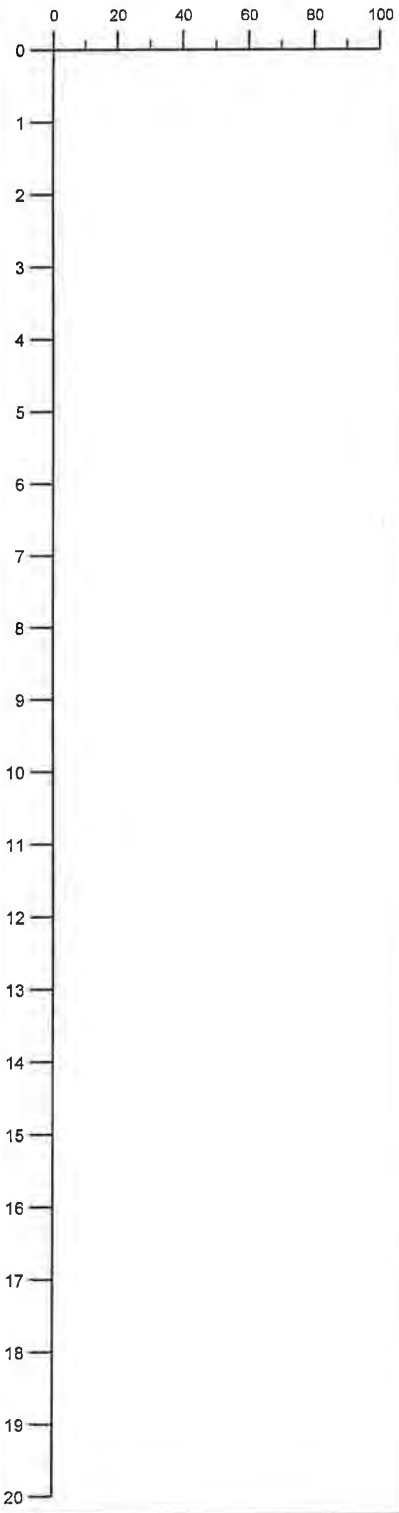
Boring No.: SB-50

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–5		Dark greyish brown silty fine sand (SP-SM) - No odor	SB-50-4	
5–11		Dark brown organic clayey silt (OL) Peat - with wood fibers - Slight odor	SB-50-8	
11–15		Soft dark brown to black silty clay (CL) - No odor	SB-50-12	
15–18		Soft dark grey sandy clay (CL) - No odor	SB-50-16	
18–20		Silty sand (SM) - No odor	SB-50-20	

Soil Conductivity (mS/m) Probe Log



Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	57.54	Geologist:	EJF
Project:	Mobile	Easting:	417.55	Drill Method:	GeoProbe
Location:	Mobile.AL	Grd. Elev:	3.04	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: SB-50

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20–23				
23–24		- Water saturated - No odor	SB-50-24	
24–27				
27–28			SB-50-28	
28–29		Light grey and orange mottled clayey sand (SC)		
29–30		Light grey and orange mottled sandy clay (CL)		
30–31		Light grey fine sand (SP) - Moderate creosote odor		
31–32			SB-50-32	
32		End of boring		

Soil Conductivity (mS/m) Probe Log: 0, 20, 40, 60, 80, 100 (20–40 ft)

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	46.37	Geologist:	EJF
Project:	Mobile	Easting:	541.55	Drill Method:	GeoProbe
Location:	Mobile.AL	Grd. Elev:	6.3	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: SB-51

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
1		75% Recovery Dark grey to brown silty fine sand (SP-SM)		
2		- Black organic lens (wood fragments)		
3			SB-51-4	
4				
5		Light grey fine to medium sand (SP) - Faint odor		
6				
7			SB-51-8	
8				
9				
10				
11		10% Recovery Fine sand (SP) - Water saturated - No odor	SB-51-12	
12				
13				
14				
15		Brown to black organic clayey silt (OL) Peat - Wood fragments - No odor	SB-51-16	
16				
17				
18		Dark grey grading to orangish brown fine sand with silt (SP)		
19			SB-51-20	
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

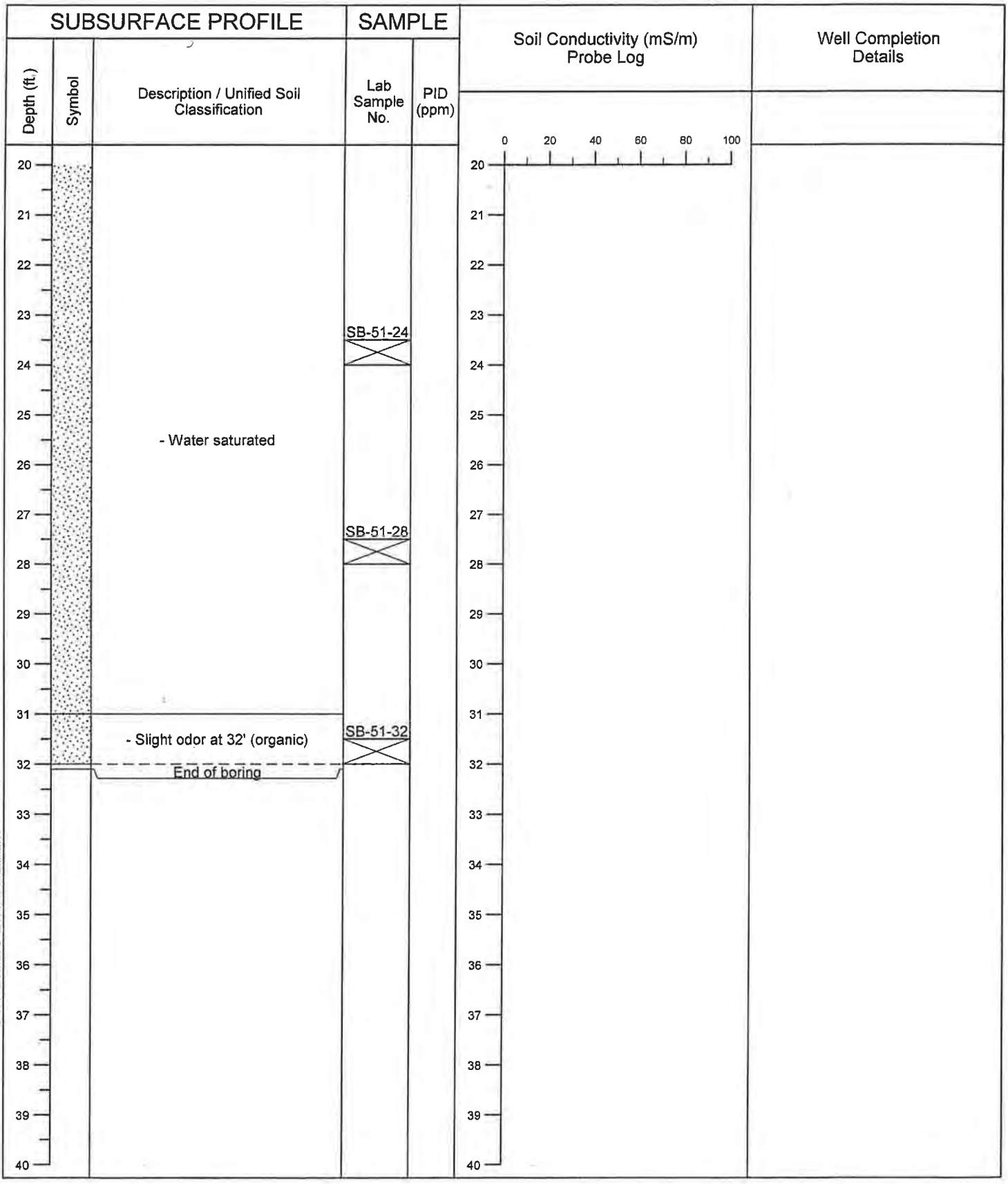
Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	46.37	Geologist:	EJF
Project:	Mobile	Easting:	541.55	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	6.3	Driller:	JG
Date:	2-28-02	Total Depth (ft. bis)	32.0	Checked By:	EJF

Boring No.: SB-51

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401



Project No.:	CFI	Northing:	52.62	Geologist:	EJF
Project:	Mobile	Easting:	472.02	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	3.19	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 1 of 2

Boring No.: SB-52

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
0–3		Dark greish brown silty fine sand (SP-SM)		
3			SB-52-4	
3–4		Light grey fine sand (SP) - No odor		
4–6		5% Recovery Dark greyish brown slightly silty to silty fine sand (SP-SM)		
7			SB-52-8	
8–10		Light grery fine sand (SP)		
11			SB-52-12	
10–16		Dark brown to black organic silty clay (OL) - with wood fragments		
15			SB-52-16	
16–20		Dark grey fine sand with silt (SP) - No odor		
19			SB-52-20	

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	52.62	Geologist:	EJF
Project:	Mobile	Easting:	472.02	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	3.19	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: SB-52

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

SUBSURFACE PROFILE			SAMPLE		Soil Conductivity (mS/m) Probe Log	Well Completion Details
Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)		
20–40		- Silt increasing with depth - No odor	SB-52-24		0 20 40 60 80 100	
26		Medium to stiff light grey silty clay (CL)				
27			SB-52-28			
28		Light grey fine sand with silt and clay (SP)				
30		5% Recovery Light brown fine sand with silt (SP)				
31			SB-52-32			
32		End of boring				

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	277.50	Geologist:	EJF
Project:	Mobile	Easting:	308.94	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.66	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Boring No.: SB-53

ENVIRONMENTAL MANAGEMENT SERVICES, INC.
600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
0		Ground Surface		
1–3		Dark grey slightly silty to silty fine sand (SP-SM)		
3			SB-53-4	
4		Orange fine sand (SP) - No odor		
5		75% Recovery Dark grey silty fine sand (SP-SM)		
6–7				
7			SB-53-8	
8		Orange fine sand (SP)		
9–10				
10–11		Dark brown to black organic silty clay (OH) Peat - with wood fragments - No odor		
11			SB-53-12	
12–13		Dark grey to dark brown silty fine sand (SP-SM)		
14		Orangish brown fine sand with silt (SP)		
15		Soft greenish grey silty clay (CL)		
15		Orangish brown fine sand with silt (SP)	SB-53-16	
16		Soft dark brown silty organic clay (OH) Peat - Peat odor		
17–18		Light grey fine sand (SP)		
19			SB-53-20	
20				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

Project No.:	CFI	Northing:	277.50	Geologist:	EJF
Project:	Mobile	Easting:	308.94	Drill Method:	GeoProbe
Location:	Mobile,AL	Grd. Elev:	4.66	Driller:	JG
Date:	2-28-02	Total Depth (ft. bls)	32.0	Checked By:	EJF

Page: 2 of 2

Boring No.: SB-53

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

600 N. 26TH AVE
HATTIESBURG, MS 39401

Depth (ft.)	Symbol	Description / Unified Soil Classification	Lab Sample No.	PID (ppm)
20				
21		Light grey fine sand (SP) *(Continued)*		
22				
23		- Grading to medium sand (SP)	SB-53-24	
24				
25				
26				
27			SB-53-28	
28		- Medium sand (SP)		
29				
30				
31			SB-53-32	
32		End of boring		
33				
34				
35				
36				
37				
38				
39				
40				

Soil Conductivity (mS/m) Probe Log

0 20 40 60 80 100

Well Completion Details

CONDUCTIVITY AND WELL CFI MOBILE.GPJ ENV MANAGEMENT.GDT 6/2/03

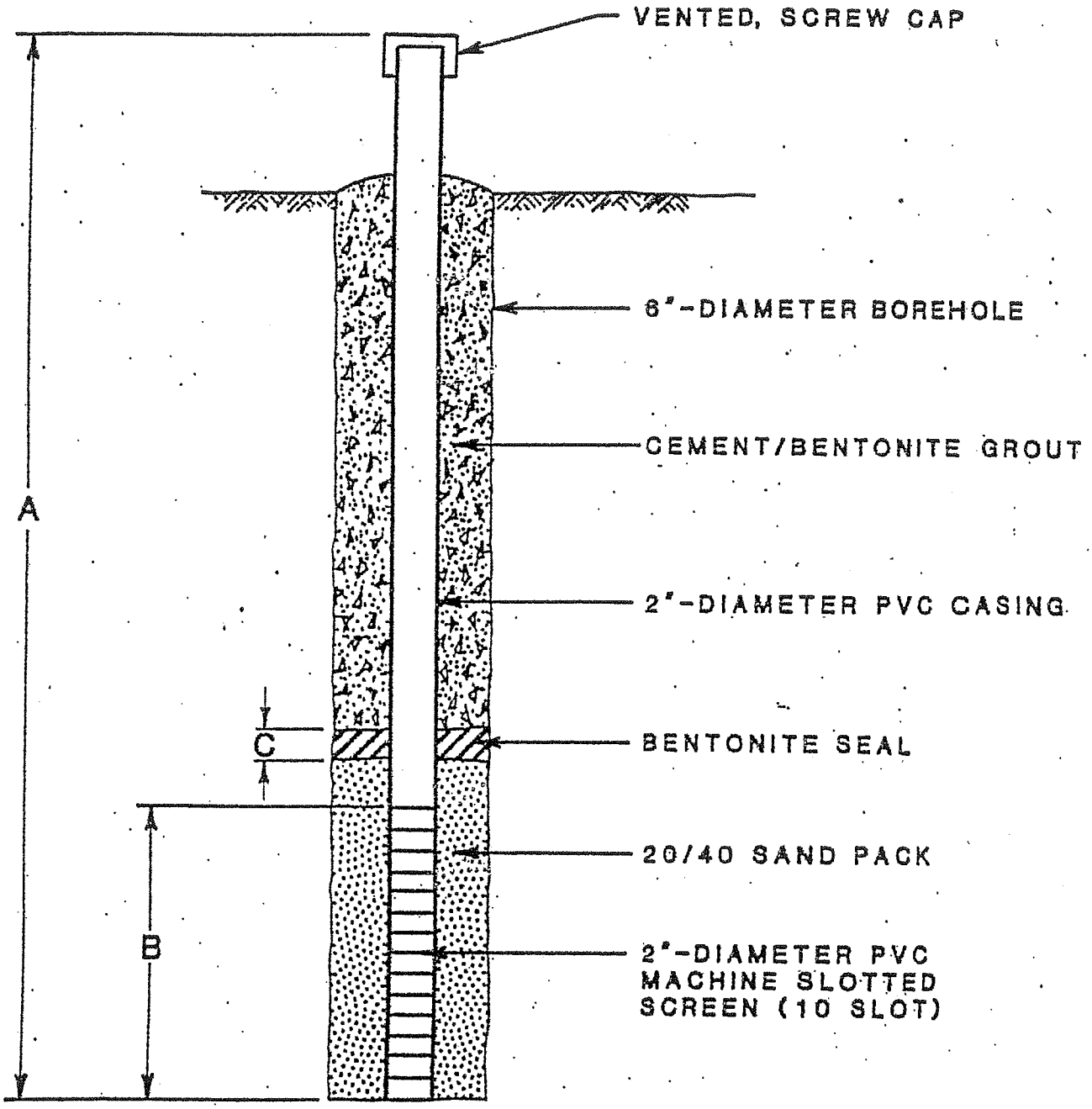
ATTACHMENT O

SOIL BORING LOGS*

CAVENHAM FOREST INDUSTRIES LLC
Mobile, Alabama

* See Attachment R for additional boring logs

UG-1
UG-2



Well	Dimensions (feet) A (ft)	B (ft)	C (ft)	D (ins)
UG-1	27.0	5.0	--	2.0
UG-2	25.0	5.0	--	5.0

A = Total well depth
B = Screen length
C = Bentonite seal
D = Well diameter

TABLE 6

Compliance Well Construction Details

Well	Dimensions (feet) A (ft)	B (ft)	C (ft)	D (ins)
UG-1	27.0	5.0	---	2.0
B-31	38.5	10.0	2.0	2.0
B-30	40.0	10.0	2.0	2.0
B-32	40.0	10.0	2.0	2.0
B-4A	25.9	10.0	2.0	2.0
B-6	15.0	5.0	2.0	2.0
B-35	41.5	10.0	3.0	2.0

A = Total well depth
B = Screen length
C = Bentonite seal.
D = Well diameter

NG CONTRACTOR | License Number | Address | Zip Code | Date

Crouch Water Well

RTY OWNER | Address (mailing) | Zip Code

ELL LOCATION | County | Section | ¼ Section | Township | Range —or:

2 North East

Distance and direction from nearest town, community, road junction or other reference point

WELL WILL BE USED FOR: ☐ Private supply ☐ Public supply ☐ Industrial supply ☐ Test well ☐ Irrigation Other:

UG1

Estimated starting date | Drilling method: (check) ☐ Cable tool ☐ Rotary ☐ Jetted ☐ Bored Other: | Diameter of well | Estimated depth

SIGNATURE of Drilling Contractor

epth | Completion Date

Description of cuttings	Interval	Description of cuttings
Sand		
Log & Clay		
Sand & Clay		
Log & Clay		
Sand		

Pump
Completion data: report depths below ground level
Type: ☐ Turb. ☐ Subm. ☐ Jet ☐ Cyl.; Other:
Intake depth ____ H.P. ____ Yield ____ gpm

Capacity
Tested by: ☐ pumping ☐ air lift ☐ bailer ☐ none
Measured Static Water Level 44.9 ft.
Measured pumping level ____ ft. after
____ hrs. pumping ____ gpm
Development time prior to testing ____ hrs.

Finish
☐ Open hole ☐ Screened ☐ Slotted pipe ☐ Gravel pk.
Interval(s) screened: ____ to ____ ft.;
____ to ____ ; ____ to ____ ft.
Packer(s) set at ____ and ____ ft.
Screen: diam. ____ ; Slot openings ____

Casing

Interval cased	Diam. (inches)	*Type pipe	*Type couplings	Interval grouted

*Couplings: Threaded & Coupled (T&C) Welded (W) Threaded & coupled & welded (T&W)
Other:
*Pipe: Black; PVC; Galv.; Other:

Quality
Water analysis obtained? (check) ☐ No ☐ Bacteriological ☐ Chemical
Analysis by: ☐ Ala Geol. Surv. ☐ U.S. Geol. Surv. ☐ Ala Health Dept. ☐ Private lab.
Signed:

*For deeper well please attach continuation sheet.

RECORD OF DRILLED WELL

Mobile County Log

DRILLING CONTRACTOR | License Number | Address | Zip Code | Date

Farrell Zeller Inc. 1

PROPERTY OWNER | Address (mailing) | Zip Code

WELL LOCATION | County | Section | ¼ Section | Township | Range | —or:

7-1 -- North West

Distance and direction from nearest town, community, road junction or other reference point

W62

WELL WILL BE USED FOR: ☐ Private supply ☐ Public supply ☐ Industrial supply ☐ Test well ☐ Irrigation Other: _____

Estimated starting date | Drilling method: (check) ☐ Cable tool ☐ Rotary ☐ Jetted ☐ Bored Other: _____ | Diameter of well | Estimated depth

SIGNATURE of Drilling Contractor

Tal Depth _____ Completion Date _____

Interval	Description of cuttings	Interval	Description of cuttings
0-7	Clay		
7-13	Sand		
13-15	Sand stone		
15-22	Sand.		

Pump

Completion data; report depths below ground level

Type: ☐ Turb. ☐ Subm. ☐ Jet ☐ Cyl.; Other: _____

Intake depth _____ H.P. _____ Yield _____ gpm

Capacity

Tested by: ☐ pumping ☐ air lift ☐ bailer ☐ none

Measured Static Water Level 32 ft.

Measured pumping level _____ ft. after

_____ hrs. pumping _____ gpm

Development time prior to testing _____ hrs.

Finish

☐ Open hole ☐ Screened ☐ Slotted pipe ☐ Gravel pk.

Interval(s) screened: _____ to _____ ft;

_____ to _____ ; _____ to _____ ft.

Packer(s) set at _____ and _____ ft.

Screen: diam. _____ ; Size openings _____

Casing

Interval cased	Diam. (inches)	*Type pipe	*Type couplings	Interval grouted

*Couplings: Threaded & Coupled (T&C) Welded (W) Threaded & coupled & welded (TC&W)

Other: _____

*Pipe: Black; PVC; Galv.; Other: _____

Quality

Water analysis obtained? (check) ☐ No ☐ Bacteriological ☐ Chemical

Analysis by: ☐ Ala Geol. Surv. ☐ U.S. Geol. Surv. ☐ Ala Health Dept. ☐ Private lab.

Signed:

*For deeper well please attach continuation sheet.

DRILLING CONTRACTOR | License Number | Address | Zip Code | Date

Crown Zeller Bach

PROPERTY OWNER | Address (mailing) | Zip Code

WELL LOCATION: 1/4 South West | County | Section | 1/4 Section | Township | Range — —or:

Distance and direction from nearest town, community, road junction or other reference point

DG3

WELL WILL BE USED FOR: ☐ Private supply ☐ Public supply ☐ Industrial supply ☐ Test well ☐ Irrigation Other:

Estimated starting date | Drilling method: (check) ☐ Cable tool ☐ Rotary ☐ Jetted ☐ Bored Other: | Diameter of well | Estimated depth

SIGNATURE of Drilling Contractor

Total Depth | Completion Date

Interval	Description of cuttings	Interval	Description of cuttings
0-10	Sand & clay		
10-20	Sand & clay		
20-30	Clay		
30-40	Sand at 31'		

*For deeper well please attach continuation sheet.

Completion data: report depths below ground level

Pump
Type: ☐ Turb. ☐ Subm. ☐ Jet ☐ Cyl:: Other:
Intake depth H.P. Yield gpm

Capacity
Tested by: ☐ pumping ☐ air lift ☐ bailer ☐ none
Measured Static Water Level 31 ft.
Measured pumping level ft. after
hrs. pumping gpm
Development time prior to testing hrs.

Finish
☐ Open hole ☐ Screened ☐ Slotted pipe ☐ Gravel pl.
Interval(s) screened: to ft;
to ; to ft.
Packer(s) set at and ft.
Screen: diam. ; Size openings:

Casing

Interval cased	Diam. (inches)	*Type pipe	*Type couplings	Interval grouted

*Couplings: Threaded & Coupled (T&C) Welded (W) Threaded & coupled & welded (TC&W)
Other:
*Pipe: Black; PVC; Galv.; Other:

Quality
Water analysis obtained? (check) ☐ No ☐ Bacteriological ☐ Chemical
Analysis by: ☐ Ala Geol. Surv. ☐ U.S. Geol. Surv. ☐ Ala Health Dept. ☐ Private lab.
Signed:

Marvin Woodridge

DRILLING CONTRACTOR | License Number | Address | Zip Code | Date

Crowell Zeller Bros.

ROPERTY OWNER | Address (mailing) | Zip Code

WELL LOCATION | County | Section | ¼ Section | Township | Range — —or:

North West

Distance and direction from nearest town, community, road junction or other reference point

WELL WILL BE USED FOR: ☐ Private supply ☐ Public supply ☐ Industrial supply ☐ Test well ☐ Irrigation Other:

Estimated starting date | Drilling method: (check) Cable tool Rotary Jetted Bored | Diameter of well | Estimated depth

Other:

SIGNATURE of Drilling Contractor

tal Depth

Completion Date

Interval	Description of cuttings	Interval	Description of cuttings
0-7	Clay		
7-13	Sand		
13-15	Sand stone		
15-22	Sand.		

Completion data; report depths below ground level

Pump

Type: ☐ Turb. ☐ Subm. ☐ Jet ☐ Cyl.; Other:

Intake depth H.P. Yield gpm

Capacity

Tested by: ☐ pumping ☐ air lift ☐ bailer ☐ none

Measured Static Water Level 32 ft.

Measured pumping level ft. after

hrs. pumping gpm

Development time prior to testing hrs.

Finish

☐ Open hole ☐ Screened ☐ Slotted pipe ☐ Gravel pk.

Interval(s) screened: to ft.;

to ; to ft.

Packer(s) set at and ft.

Screen: diam. ; Slot openings

Casing

Interval cased	Diam. (inches)	*Type pipe	*Type couplings	Interval grouted

*Couplings: Threaded & Coupled (T&C) Welded (W) Threaded & coupled & welded (T&C&W)

Other:

*Pipe: Black; PVC; Galv.; Other:

Quality

Water analysis obtained? (check) ☐ No ☐ Bacteriological ☐ Chemical

Analysis by: ☐ Ala Geol. Surv. ☐ U.S. Geol. Surv. ☐ Ala Health Dept. ☐ Private Lab.

Signed:

*For deeper well please attach continuation sheet.

...NG CONTRACTOR | License Number | Address | Zip Code | Date

Crown Zellerbach

...ERTY OWNER | Address (mailing) | Zip Code

...CATION | County | Section | ¼ Section | Township | Range — —or:

T-2 North | East

Distance and direction from nearest town, community, road junction or other reference point

WELL WILL BE USED FOR: ☐ Private supply ☐ Public supply ☐ Industrial supply ☐ Test well ☐ Irrigation Other: _____

U61

Estimated starting date | Drilling method: (check) ☐ Cable tool ☐ Rotary ☐ Jetted ☐ Bored Other: _____ | Diameter of well | Estimated depth

SIGNATURE of Drilling Contractor

...epth _____ Completion Date _____

	Description of cuttings	Interval	Description of cuttings
1	Sand		
2	Log + Clay		
3	Sand + Clay		
4	Log + Clay		
5	[illegible]		
6	Sand		

Completion data: report depths below ground level

Pump
Type: ☐ Turb. ☐ Subm. ☐ Jet ☐ Cyl.: Other: _____
Intake depth _____ H.P. _____ Yield _____ gpm

Capacity
Tested by: ☐ pumping ☐ air lift ☐ bailer ☐ none
Measured Static Water Level 4' ft.
Measured pumping level _____ ft. after _____ hrs. pumping _____ gpm
Development time prior to testing _____ hrs.

Finish
☐ Open hole ☐ Screened ☐ Slotted pipe ☐ Gravel pk.
Interval(s) screened: _____ to _____ ft.; _____ to _____ ft.
Packer(s) set at _____ and _____ ft.
Screen: diam. _____; Slot openings _____

Casing

Interval cased	Diam. (inches)	*Type pipe	*Type couplings	Interval grouted

*Couplings: Threaded & Coupled (T&C) Welded (W) Threaded & coupled & welded (T&C&W)
Other: _____
*Pipe: Black; PVC; Galv.; Other: _____

Quality
Water analysis obtained? (check) ☐ No ☐ Bacteriological ☐ Chemical
Analysis by: ☐ Ala Geol. Surv. ☐ U.S. Geol. Surv. ☐ Ala Health Dept. ☐ Private lab.
Signed:

*For deeper well please attach continuation sheet.

THOMPSON ENGINEERING TESTING, INC.

ENGINEERS TESTING LABORATORIES

MOBILE, ALABAMA BILOXI, MISSISSIPPI

TEST BORING LOG

CLIENT: Crown-Zellerbach

GROUND ELEVATION:

PROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Surface

JOB NO.: 85-030-E

DATE DRILLED: 3/4/85

GR. WATER DEPTH: -2.5

BORING NO.: B-1

LOCATION: 250'N., 77'E. of Warehouse

TYPE BORING: ASTM D-15

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L. L.	ATTERBERG LIMITS P. I.	Contamination Indications Odor	Contamination Indications Visual
0											
SM			FIRM medium brown and gray SILTY SAND	1	14	*	5 in. Clam/ Oyster Shell			N	N
CL			Fine CLAYEY organic lense								
5 SM			LOOSE medium gray SILTY SAND	2	6					N	N
10 SP			FIRM tan and white SAND	3	11					N	N
				4	21					N	N
20			FIRM to DENSE medium to coarse tan and white SAND	5	28					N	N
25			DENSE to Very DENSE coarse tan and white SAND with pea gravel	6	20					N	N
30				7	47					N	N
35			Very DENSE coarse tan and brown SAND	8	45					N	N
40				9	54					N	N
45			Very DENSE medium tan SAND	10	62					N	N
				11	61					N	N
55			DENSE coarse tan SAND with pea gravel	12	42					N	N

THOMPSON ENGINEERING TESTING, INC.

ENGINEERS TESTING LABORATORIES

MOBILE, ALABAMA BILOXI, MISSISSIPPI

TEST BORING LOG

NT: Crown-Zellerbach

GROUND ELEVATION: -

PROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Surface

JOB NO.: 85-030-E

DATE DRILLED: 3/4/85

GR. WATER DEPTH: -2.5 ft

BORING NO.: B-1 (Continued)

LOCATION: 250'N, 77'E, of Warehouse

TYPE BORING: ASTM D-1586

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	Contamination Indications** Odor	Contamination Indications** Visual
55											
			DENSE coarse white and orange SAND with pea gravel	12	42					N	N
60				13	42					N	N
65				14	45					N	N
			Very DENSE coarse gray SAND with pea(1)	15	80					N	N
75			Very DENSE coarse white and orange SAND with pea gravel and overlying 4 inch gray SITLY CLAY lense	16	92					N	N
80				17	84					N	N
85			Fine DARK brown (2)	18	29					N	N
90			FIRM fine blue-gray SILTY CLAY with (3)	19	10					N	N
			B.T. @ 89.5'								
00			(1) gravel (2) organic CLAY (3) organics								
05											
15											

**N= None
S= Slight
M= Moderate
H= Heavy

THOMPSON ENGINEERING TESTING, INC.

ENGINEERS TESTING LABORATORIES

MOBILE, ALABAMA BILOXI, MISSISSIPPI

TEST BORING LOG

/ENT: Crown-Zellerbach

GROUND ELEVATION:

PROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Surface ~ ±

JOB NO.: 85-30-E

DATE DRILLED: 3/5/85

GR. WATER DEPTH: -

BORING NO.: B-2

LOCATION: 23 ft. South of Aeration Pond Centered

TYPE BORING: ASTM D-1

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L. L.	ATTERBERG LIMITS P. I.	Contaminat Indications Odor	Contaminat Indications Visual
0											
SM			LOOSE fine dark brown SAND	1	6					S	N
5 CL			VERY SOFT fine dark brown CLAYEY organics	2	VOH					H	H
10			VERY SOFT fine dark organic CLAY	3	VOH					H	H
				4	VOH					H	H
20			VERY SOFT fine gray CLAY	5	VOH					S	S
25			VERY SOFT fine gray SILTY CLAY with organic roots	6	VOH					S	S
SM 30			FIRM fine gray and white SILTY SAND	7	20					N	N
SP 35			DENSE medium tan SAND	8	37					N	N
40			*Organic marsh with rubble material								
45			B.T. @ 36.5'								
55											

**N= None
S= Slight
M= Moderate
H= Heavy

THOMPSON ENGINEERING TESTING, INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA BILOXI, MISSISSIPPI

TEST BORING LOG

Crown-Zellerbach

OJECT: Treated Wood Products Plant
Magazine, Alabama

GROUND ELEVATION: -

DATUM: Existing Ground Surface

B NO.: 85-30-E

DATE DRILLED: 3/5/85

GR. WATER DEPTH: -

RING NO.: B-2

LOCATION: 23 ft. South of Aeration Pond Centered

TYPE BORING: ASTM D-1586

EPTH IN EET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	GRAPH 5 10 20 30 40 50	% W.C.	ATTERBERG LIMITS L. L.	P. I.	Contamination Indications** Odor	Visual
0			LOOSE fine dark brown SAND	1	6					S	N
5			VERY SOFT fine dark brown CLAYEY organics	2	VOR					H	H
0			VERY SOFT fine dark organic CLAY	3	VOR					H	H
				4	VOR					H	H
			VERY SOFT fine gray CLAY	5	VOR					S	S
			VERY SOFT fine gray SILTY CLAY with organic roots	6	VOR					S	S
			FIRM fine gray and white SILTY SAND	7	20					N	N
			DENSE medium tan SAND	8	37					N	N
			*Organic marsh with rubble material								
			B.T. @ 36.5'								

**N= None
S= Slight
M= Moderate
H= Heavy

SF

THOMPSON ENGINEERING TESTING, INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA BILOXI, MISSISSIPPI

TEST BORING LOG

CT: Crown Zellerbach

GROUND ELEVATION: -

ROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Surface ~84

)B NO.: 85-030-E

DATE DRILLED: 3/4/85

GR. WATER DEPTH: -

)RING NO.: B-3

LOCATION: 110 ft. North of, and 30 ft. East of S.E. corner aeration pond

TYPE BORING: ASTM D-158

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH 5 10 20 30 40 50	% W.C.	ATTERBERG LIMITS L. L.	ATTERBERG LIMITS P. I.	Contamination Indication** Odor	Contamination Indication** Visual
0			FIRM fine dark brown SILTY SAND	1	12					N	N
5			VERY SOFT fine dark brown CLAYEY organics with roots	2	WOH					H	H
10				3	WOR					H	H
				4	WOR					H	H
0			VERY SOFT fine gray CLAY with organics	5	WOR					S	M
5			LOOSE fine white SILTY SAND	6	2-12					N	N
0			VERY DENSE to FIRM fine to coarse white and tan SAND	7	53					N	N
			*Clam and oyster shell	8	24					N	N
			B.T. @ 36.5'								

**N = None
S = Slight
M = Moderate
H = Heavy

THOMPSON ENGINEERING TESTING, INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA BILOXI, MISSISSIPPI

TEST BORING LOG

T: Crown Zellerbach

GROUND ELEVATION: -

PROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Surface

JOB NO.: 85-030-E

DATE DRILLED: 3/4/85

GR. WATER DEPTH: -

BORING NO.: B-3

LOCATION: 110 ft. North of, and 30 ft. East of S.E. corner aeration pond

TYPE BORING: ASTM D-158

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L. L.	ATTERBERG LIMITS P. I.	Contamination Indication** Odor	Contamination Indication** Visual
0											
	SM		FIRM fine dark brown SILTY SAND	1	12					N	N
5				2	WOH					H	H
	CL		VERY SOFT fine dark brown CLAYEY organics with roots	3	WOR					H	H
10				4	WOR					H	H
20			VERY SOFT fine gray CLAY with organics	5	WOR					S	M
25				6	2-12					N	N
	SM		LOOSE fine white SILTY SAND								
30											
	SP		VERY DENSE to FIRM fine to coarse white and tan SAND	7	53					N	N
35				8	24					N	N
			*Clam and oyster shell								
40			B.T. @ 36.5'								

**N= None
S= Slight
M= Moderate
H= Heavy

YESTER J. THOMPSON, JR., INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA PASCAGOULA, MISSISSIPPI

TEST BORING LOG

: Crown Zellerbach

ROJECT: Treated Wood Products Plant
Magazine, Alabama

GROUND ELEVATION:

DATUM: Existing Ground Su
~23

)B NO.: 85-30-E

DATE DRILLED: 3/19/85

GR. WATER DEPTH: -4.0'

)RING NO.: B-4

LOCATION: 13.5' South of Cooling Water Pond; Centerline

TYPE BORING: ASTM D-158

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	Contamination Indications Odor	Contamination Indications Visual
0			FIRM medium dark red to white CLAYEY SAND*	1	22					N-S	N-S
5			LOOSE medium dark brown SILTY SAND with organics	2	8					N	N
10			LOOSE coarse dark brown to gray SAND	3	5					S	S
15			LOOSE medium dark brown SILTY SAND	4	1					S	N
			SOFT fine gray and brown organic CLAY with large fragments of decayed wood	5	WOH					S	N
25				6	WOH					N	N
			LOOSE to DENSE medium white SAND	T-1	PUSH						
30				7	33					S	N
35			DENSE coarse white and tan SAND	8	42					N	N
40				9	32					N	N
45				10	46					N	N
50			FIRM medium to fine orange and tan CLAYEY**	11	11					N	N
55			FIRM to DENSE coarse white, tan, and orange SAND with pea gravel	12	27					N	N
				13	45					N	N
			DENSE coarse orange SAND with pea gravel and thin lenses of	14	35					N	N

YESTER J. THOMPSON, JR., INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA PASCAGOULA, MISSISSIPPI

TEST BORING LOG

: Crown Zellerbach

GROUND ELEVATION: -

ROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Sur

)B NO.: 85-30-E

DATE DRILLED: 3/19/85

GR. WATER DEPTH: -4.0'

)RING NO.: B-4 continued

LOCATION: 13.5' South of Cooling Water Pond; Centerline

TYPE BORING: ASTM D-1586

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	Contamination Indications Odor	Contamination Indications Visual
70			fine orange CLAYEY SAND	14	35					N	N
75											
80			DENSE coarse orange and tan SAND with pea gravel	15	65					N	N
85											
			Fine gray SILTY CLAY with clam SHELL and***	T-2 PUSH						N	N
				T-3 PUSH							
95			FIRM to DENSE coarse white, tan, and gray SAND	16	18					N	N
00											
05											
10											
15			VERY STIFF green****	T-4 PUSH						N	N
20			B.T. @ 117.0'								
25											
0											

* 8 inches overlying clam shell surface

** SAND with medium white SAND lenses

*** pea gravel

**** gray marine SILTY CLAY.
Pocket Penetrometer
Unconfined Compressive Strength = 4.25 TSF

N = None
S = Slight
M = Moderate
H = Heavy

YESTER J. THOMPSON, JR., INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA PASCAGOULA, MISSISSIPPI

TEST BORING LOG

CLIENT: Crown Zellerbach

GROUND ELEVATION:

PROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground

JOB NO.: 85-30-E

DATE DRILLED: 3/19/85

GR. WATER DEPTH: -4.

BORING NO.: B-4

LOCATION: 13.5' South of Cooling Water Pond; Centerline

TYPE BORING: ASTM D-1

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	Contamination Indications Odor	Contamination Indications Visual
0			FIRM medium dark red to white CLAYEY SAND*	1	22					N-S	N-S
5			LOOSE medium dark brown SILTY SAND with organics	2	8					N	N
10			LOOSE coarse dark brown to gray SAND	3	5					S	S
15			LOOSE medium dark brown SILTY SAND	4	1					S	N
20			SOFT fine gray and brown organic CLAY with large fragments of decayed wood	5	WOH					S	N
25				6	WOH					N	N
30			LOOSE to DENSE medium white SAND	T-1	PUSH					S	N
35			DENSE coarse white and tan SAND	7	33					N	N
40				8	42					N	N
45				9	32					N	N
50			FIRM medium to fine orange and tan CLAYEY**	10	46					N	N
55			FIRM to DENSE coarse white, tan, and orange SAND with pea gravel	11	11					N	N
60				12	27					N	N
65				13	45					N	N
70			DENSE coarse orange SAND with pea gravel and thin lenses of	14	35					N	N

SM
CL
SP
SC
SP

VESTER J. THOMPSON, JR., INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA PASCAGOULA, MISSISSIPPI

TEST BORING LOG

CLIENT: Crown Zellerbach

GROUND ELEVATION: -

PROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground S

JOB NO.: 85-30-E

DATE DRILLED: 3/19/85

GR. WATER DEPTH: -4.0'

BORING NO.: B-4 continued

LOCATION: 13.5' South of Cooling Water Pond; Centerline

TYPE BORING: ASTM D-15

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L.L.	ATTERBERG LIMITS P.I.	Contamination Indications Odor	Contamination Indications Visual
70											
SM			fine orange CLAYEY SAND	14	35					N	N
75											
SP			DENSE coarse orange and tan SAND with pea gravel	15	65					N	N
80											
85											
			Fine gray SILTY CLAY with clam SHELL and***	T-2 PUSH						N	N
				T-3 PUSH							
SP				16	18					N	N
95			FIRM to DENSE coarse white, tan, and gray SAND								
100											
105											
110											
CH 115			VERY STIFF green****	T-4 PUSH						N	N
120			B.T. @ 117.0'								
125											
0											
140											

* 8 inches overlying clam shell surface

** SAND with medium white SAND lenses

*** pea gravel

**** gray marine SILTY CLAY.
Pocket Penetrometer
Unconfined Compressive Strength = 4.25 TSF

N = None
S = Slight
M = Moderate
H = Heavy

VESTER J. THOMPSON, JR., INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA PASCAGOULA, MISSISSIPPI

TEST BORING LOG

Crown Zellerbach

GROUND ELEVATION: ---

OJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Surface

B NO.: E85-030

DATE DRILLED: April 1, 1985

GR. WATER DEPTH: ---

RING NO.: B-5

LOCATION: 55' North, 25' East of SE Corner Cooling Water Pond

TYPE BORING: ASTM D-1586

EPTH IN EET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH 5 10 20 30 40 50	% W.C.	ATTERBERG LIMITS L. L.	ATTERBERG LIMITS P. I.
0			LOOSE fine red to black SILTY SAND with (1)	1	5				
5			SOFT fine dark brown and gray CLAY with organics	2	1				
0				T-1	Push 100%				
			LOOSE fine tan SILTY SAND	3	4				
			SOFT fine dark brown CLAY with organics	T-2	Push 75%				
				4	2				
)			B.T. @ 26.5'						
			(1) clam shell						

YESTER J. THOMPSON, JR., INC.
ENGINEERS TESTING LABORATORIES
MOBILE, ALABAMA PASCAGOULA, MISSISSIPPI

TEST BORING LOG

CLIENT: Crown Zellerbach

GROUND ELEVATION: ---

PROJECT: Treated Wood Products Plant
Magazine, Alabama

DATUM: Existing Ground Surface

JOB NO.: E85-030

DATE DRILLED: April 1, 1985

GR. WATER DEPTH: ---

BORING NO.: B-5

LOCATION: 55' North, 25' East of SE Corner Cooling Water Pond

TYPE BORING: ASTM D-1586

DEPTH IN FEET	LOG	SAMPLE	DESCRIPTION	NO.	BLOWS PER FT. NO	BLOWS PER FT. GRAPH (5 10 20 30 40 50)	% W.C.	ATTERBERG LIMITS L. L.	ATTERBERG LIMITS P. I.
0									
SM			LOOSE fine red to black SILTY SAND with (1)	1	5				
5			SOFT fine dark brown and gray CLAY with organics	2	1				
CL									
10				T-1	Push 100%				
			LOOSE fine tan SILTY SAND	3	4				
SM									
20				T-2	Push 75%				
CL			SOFT fine dark brown CLAY with organics						
25				4	2				
30			B.T. @ 26.5'						
			(1) clam shell						
35									
40									
45									
55									

BORING LOG

old GM-10

PROJECT NAME Crown Mobile PROJECT NUMBER 4913C21
LOGGED BY Eric C. Tamami APPROX. ELEV. —
COORDINATES — DRILLING METHOD Auger/Bailer
GWL : DEPTH ~6' ACTUAL TIME 10:20

PAGE 1 OF 1
BORING NO. B-10
DATE STARTED 6/7/85
DATE COMPLETED 6/7/85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

6" bit

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						Augered
5'	0-5' Augered	organic clay/sand	CL/SM/CL	—	—	0-5') top 8-10" Black organic clay w/ roots & ~F. sand, then ~8" of F. sand, heavily contam. w/ creosote; the rest, gray-black silty clay, roots, strong odor, traces of F. sand, dry.
	0	SP-1	—	—	2(18") 2(15")	
	12"	SP-2	silty clay/sand	CL/SM		5-6½' No Recov.
10'	12"	SP-3	↓	CL/SM	1-6-3	
	12"	SP-4	sand	SM	1-1-3	6½-8' the upper 4" black silty clay, wet, roots, odor, then 6" of V.F. sand interbedded clay/silt, wet, wood frag., roots. The bottom 2" gray F. sand, roots & wood fr.
	12"	SP-5		SM	1-1-2	
	12"	SP-6		SM	1-4-5	
15'	12"	SP-7		SM	1-3-2	8-9½' the upper 6", V.F. sand, Dark gray, wood frag & roots, a trace of silty clay; the rest, F-M. sand, gray, wet, looks clean.
	15"	SP-8		CL/SM/CL	1-2-1	
	15"	SP-9	clay/sand	CL/SM	2(18")	
20'	15"	SP-10	clay/sand	CL/SM/CL	WOH(12") -1	
	9"	ST-1	CL	—	soft to (.25)	9½-11' F-M. gray sand, wet, wood frag., bottom 3" contaminated w/ creosote (film of oily stuff)
25'						11-12½' F-M-V.F. gray sand, wet, creosote (contamination) spots, roots & wood residue.
						12½-14' gray V.F. sand, wet, roots, wood residue, heavily contaminated.
						14-15½' Same as above, saturated w/ creosote.
						15½-17' the upper 10" V.F. sand, wood residue, wet, saturated w/ creosote, then 4" of interbedded black silty clay & V.F. sand, wood resid. & roots, last 1" black silty clay w/ wood frag.
		T.D.	22'			17-18½' interbedded silty clay (black) w/ F.-V.F. sand, wood frag. less contamination is visible.
						18½-20' the top 10" same as above, bottom 5" gray, plastic, moist, silty clay, some fine roots.
						20-22' gray silty clay, wet, moist, soft, plastic, wood frag., roots.

NOTE:

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %

SP-3 (8-9½) Preserved

15-16' screen
15-8' 20/40
8-6' Pellets
6'-4' grout

Geraghty & Miller, Inc.

BORING LOG

CTA-9

PROJECT NAME Crown Z. PROJECT NUMBER 4913 C21
LOGGED BY Tim C. Tammaro APPROX. ELEV. —
COORDINATES — DRILLING METHOD Rotary / Auger
GWL : DEPTH ~ 5½ - ft. ACTUAL TIME 07:40

PAGE 1 OF 1
BORING NO. B-7
DATE STARTED 6/7/85 07:3
DATE COMPLETED 6/7/85 08:

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						6" Lift
						Augered 0-5'
5'	0-5' Augered	—	Fill/soil	—	—	0-5' Augered / top 10" fill, broken shell, sand from ~ 1½ F.-Med. sand, the rest black silty clay, odor, roots, wood chips, traces of sand, creosote residue, moist.
	0	SP-1	soil/cl.	-	4gm	5-6½' no recov. bottom catcher shows black silty clay & F. sand.
	12"	SP-2	SAND	SM	1-1-2	
10'	12"	SP-3		SM/SP	1-1-1	6½-8' top 2" black silty clay, the rest dark gray F.-M. sand - creosote gray, wet, uniformly graded, slight odor, roots, wood frag (bark bits?).
	8"	SP-4			wash-1-1	
	8"	SP-5			1-5-5	
	8"	SP-6			2-4-4	8-9½' Same As above, odor (creosote)
15'	6"	SP-7			24-5	9½-11' same As above
	9"	SP-8	SAND	SM	3-2-3	
	6"	SP-9	sand/cl.	SM/CL	1-1-1	11-12½' same as above, sand looks cleaner, light gray
20'	12"	SP-10	"	"	1-1-1	12½-14' gray F. sand, bottom of this sample shows V.F sand, wet, creosote in spots, no roots, broken shell trace. light — creosote
	0	ST-1	—	—	—	14-15½' light gray, V.F. sand, wood frag, a few creosote spots, wet. — sand grains
	15"	ST-2	clay	CL	2fm (18")	15½-17 V.F. gray-white sand, wet, looks clean, slight odor, wood frag in spots.
25'						17-18½' Dark black silty clay, interbedded w/ lenses of gray V.F. sand, slight odor, wood residue pockets.
						18½-20' gray silty clay, " " " " " roots.
						20-22' No recov. will wash to 22', will try split spoon from 22' to 23½'
						22-23½' gray, Plastic, med., moist silty clay -
						T.D. 23½'

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

* CTA-9 shows F.-M. Sand to the shallower depth NW corner of Vacuum Ind.

6½-8' (SP-2) Preserved for test.

15-10' screen
15-8' 2.0/4.0
8-6' pellets
6'-Ls grout

Geraghty & Miller, Inc.

BORING LOG

GM-8

PROJECT NAME Cranwell — PROJECT NUMBER 2913.021
LOGGED BY ZAT — APPROX. ELEV. —
COORDINATES — — DRILLING METHOD Auger/Rotary
GWL: DEPTH ~5½' — ACTUAL TIME 12:10

PAGE 1 OF 1
BORING NO. B-8
DATE STARTED 6/16/95
DATE COMPLETED 6/16/95

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						Screen 15'-10' ✓ Pellets 8'-6' grout 6'-Ls.
						6" silt
SM/CL						0-5' Aground – Red silty sand (med) top 1', then
5'						3½' of organic black silty clay, roots (no wood frog or clips), slight odor, not as dirty & contaminated as B-9. Also bottom ½ F-M. sand.
SM	12"	SP-1	Sand	SM/SP	1-5-5	
	12'	SP-2	"	"	3-5-4	
10'	12"	SP-3	"		1-2-5	5-6½' F-M. gray sand, roots, wet, fairly clean
	15"	SP-4	"	"	39-8	6½-8' Sand as above } slight odor, wet
	15"	SP-5	"	"	3-7-8	8-9½' same as above }
15'	15	SP-6	"	"	7-2-1	9½-11' same as above (F-M. sand, gray, ~clean), also, wood frog & decayed organics.
	12"	SP-7	"	"	1-4-8	
CL	12"	SP-8	"	"		11-12½' F-V.F. gray sand, wet, Natural odor (swamp).
	12"	SP-9	clay	SM/CL	2-1-2	12½-14' wet, (lenses of V.F. sand), wood frog, roots
20'	12"	SP-10	clay	CL	1-1-1	same as above
6'	24"	ST-1	clay	CL	1-1-3	14-15½' gray F.-M. sand, wet, trace of wood frog. Natural odor
					.25	15½-17' the upper 8" F. gray sand, trace of roots, bottom 4" Med. Dark-black silty clay, natural organics, wood chips, lenses of V.F. sand (gray)
25'						17-18½' Dark-black soft-Med silty clay, pockets of V.F. gray sand, dry, no odor, wood frog (natural)
						18½-20' The upper 6", same as above (Dark silty clay, lenses of V.F. sand & wood frog.), the bottom 6", gray, plastic, soft-med, silty clay, wood frog, trace.
						20-22' gray silty clay - soft, wood frog, moist.
			T.D 22'			

NOTE:

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

* SP-1 (5'-6½') one sample collected).

* usually from 16½'/17' down, wood frogs are natural deposits (Natural organics)

BORING LOG

GM-7 Cont'd.

PROJECT NAME Crown Z. Mobile PROJECT NUMBER 1913C21
LOGGED BY Zia M. Tamrani APPROX. ELEV. —
COORDINATES — DRILLING METHOD Auger/rotary
GWL : DEPTH ~5½' ACTUAL TIME 08:15

PAGE 2 OF 2
BORING NO. B-9
DATE STARTED 6/6/85
DATE COMPLETED 6/6/85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0						22-23½' grey, plastic, med, silty clay, water clean, odor.
5'						I.D. 23½'
10'						screen 16-11'
15'						2/40 16-9'
20'	0	SF1	—	—	—	Pellets 9-7'
25	15"	SP-11	silty clay	CL	1-1-1	grout 7'-1.5'

NOTE:

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

BORING LOG

Gm-7

PROJECT NAME Crown Z. Mobile PROJECT NUMBER 2913 C&I
LOGGED BY Rao, Ramamurthy APPROX. ELEV. —
COORDINATES — DRILLING METHOD Auger/Rotary
GWL: DEPTH ~ 5½' ACTUAL TIME 08:15

PAGE 1 OF 2
BORING NO. B-9
DATE STARTED 6/6/85
DATE COMPLETED 6/6/85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						6" bit
	0-5' Augered	—	silty clay	CL	—	Augered / 0-5' / top ½ ft, black silty clay, broken shell, F sand, wood chips, next 2½' gray silty clay, plastic, dry cleaner than the top & bottom portion of auger. bottom 2 ft, black silty clay, roots, wood chips & wood frag. & creosote, trace of M. sand.
5'	12"	SP-1	sand	SM/SP	1-5-7	
	8"	SP-2	sand	SP	3-6-6	
10'	8"	SP-3	sand	SP	2-5-5	5-6½' Gray, F.-M. sand, not as heavily saturated w/ creosote, lots of roots, wet.
	12"	SP-4	"	SP/SM	1-1-1	
	8"	SP-5	"	SM/SP	2-5-3	6½-8' Gray M. sand, uniform, wet, fairly clean, creosote odor
	12"	SP-6	Sand	SM	1-2-3	8-9½ same as above, but saturated w/ creosote
15'	15"	SP-7	sand-clay	SM/CL	2 (18")	9½-11' the upper 8" same as above (heavily contammated) M.S, the bottom 4", V.F. sand, cleaner, wood chips and wood frag.; wet, also, wood residue interbedded w/sand
	15"	SP-8	clay/sand	CL/SM	2 (18")	
	15"	SP-9	clay/sa	CL/SM	WOH (11"), 2	
20'	15"	SP-10	clay	CL	WOH	11-12½' the upper ~9" same as above, the bottom (Approx.) ~3", M. sand (top 9" V.F. sand, roots & wood residue)
	0	ST-1	—	—	—	12½-14' The upper 6", M. sand, interbedded w/ silty clay & wood residue, bottom 6" V.F. sand, clean, wet; wood residue contaminated interbedded w/ soft black silty clay & decayed wood frag.
25'						14-15½' the upper 4" V.F. silty sand, wood residue, ~7" of M. sand, interbedded w/ silty clay, heavily contaminated, bottom 4" F.-V.F. sand, interbedded w/ silty clay.
						15½-17' gray V.F. sand (upper 5"), then F. sand interbedded w/ silty clay (organic clay), [lenses of F. sand in silty clay] the rest of the core (~10") F. sand lenses with decayed wood chips interbedded w/ dark silty clay, contaminated
						17-18½' Dark-black organic silty clay, roots, wood chips, lenses of V.F. gray-dark gray sand.
						18½-20' top ½' organic clay, the rest gray silty clay w/ V.F. sa. lenses, roots, wood frag, plastic clay, Med. odor, lightly contaminated
						20-22' no recov. will wash to 22', will try SP-11.

NOTE:

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y·	30 – 45 %
AND	45 – 55 %

Geraghty & Miller, Inc.

BORING LOG

Gm-6

PROJECT NAME Crown Z PROJECT NUMBER 4913CZ1
LOGGED BY Zia M Tamimi APPROX. ELEV. —
COORDINATES — DRILLING METHOD Auger/Split
GWL : DEPTH — ACTUAL TIME —

PAGE 1 OF 1
BORING NO. B-10
DATE STARTED 6/5/85 14:
DATE COMPLETED 6/5/85 16

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						6" humic - bit.
						Augered from 0-5'
5'	Auger 5'-0'	—	Fill	—	—	0-5' light Brown, orangish sandy silty clay, creosote interbedded, wood frag. trace (Fill?)
SM / CL	24"	ST-1	silty clay v.F. sand	CL / SM	≈0.5	will push from 5-7' (Shelby)
	0	ST-2	silty? clay sand	CL	—	5-7' The upper 4" same as above, then 6" of soft black silty clay, roots, wood chips & frag. creosote, then ~7-8" of
10' SM	14"	SP-1	N	SM	4-4-3	gray, v.F. sand, at the bottom (6") black silty
	10"	SP-2	F.	SM	1-2-5	clay, creosote, wood chips, increase in roots & organics (natural - veg.) (SM)
	8"	SP-3		SM/SP	2-6-3	
15'	8"	SP-4		SM/SP	2(18")	7-9' no recov. (silty clay?)
	8"	SP-5	Sand	SP	3-4-4	9-10½' The upper 5" was black silty clay + creosote,
				CL		The bottom ~3/10" was gray M. sand, creosote, roots
20'	15"	SP-6	Sand/ clay	SM/CL	1-1-1	10½-12' This sand. was heavily contaminated w/ creosote oil
Gray Clay	15"	SP-7	clay	CL	WOH	gray M. sand — F. sand, top 5" heavily saturated w/ roots
25'						12-13½', back to F. sand (gray), creosote, roots, wood
						13½-15' Small Pockets of silty clay.
						gray V.F. sand — F. — M. sand, saturated w/ creosote
						roots, lenses of silty clay
						15-16½' F.-M. gray sand, saturated w/ creosote, roots
						18½-20' upper ~4" silty clay (creosote, wood frag), then
						gray, F. sand interbedded w/ silty clay lenses
						≈20-21½' gray silty clay, soft, plastic, wood frag., wood
						chips, few lenses of F. sand in the middle of
						Core. bottom CL

T.D. 21½'

Screen 16-11' 7-L.S.
20/40 16-9'
Peagle 9-7' grout

NOTE:

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %

The contact between CL & SM were distinct, creosote mostly trapped in organic clay (sand functions as a filler)

10½-12' (SP-2) Preserved

Geraghty & Miller, Inc.

BORING LOG

GM-1

PROJECT NAME Crown Z. PROJECT NUMBER 4913C21
LOGGED BY Zia Tamimi APPROX. ELEV. —
COORDINATES — DRILLING METHOD Auger & Wash
GWL: DEPTH ~ 6' ACTUAL TIME 10:14

PAGE 1 OF 1
BORING NO. B-11
DATE STARTED 6/3/85
DATE COMPLETED 6/3/85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
		10:14	~6'		

Aeration Pool

Existing Well B-11 Bldg. 13

N

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						Augered 0-5', washed from 5' down to
5'		Auger cuttings	Saturated organic clay		—	0-2 Wood chips, shell, sand & silt, dry, weathered
						2-5' Wood chips, dark-gray organic clay, saturated w/ creosote (Augered to 5')
						switched to rotary washed from 5' downward
	6"	ST-1	Dark organic clay	CL	—	6-8' Dark gray organic clay, wood chips, saturated w/ creosote, 6" Recov.
CL 10'	~2"	ST-2	"	CL	—	8-10' " " same as " above " " "
SM	12"	ST-3	clay w/ sand pockets	CL/SM	—	10-12' interval (10-11') Dark gray clay, pieces of wood & logs, creosote
15'	6"	SP-1	Dark gray sand	SM	WOH	11-12' dark gray clay w/ gray V.F. grained sand pockets (grayish silt)
						the bottom 4-5" pure sand, V.F. grained.
	18"	SP-2	Dark gray silty clay & sand	CL/SM	WOH	12-15½ Dark-gray, V.F. grained sand, saturated w/ creosote.
CL 20'	18"	SP-3		CL	WOH	15½-17' washed down
25'						17-18½' The bottom 4", white sand, V.F. grained, the upper 14", creosote, wood frag, silty clay & V.F. dark gray sand
						18½-20' Dark gray silty clay, wood frag. & creosote.

P & A the hole

T.D. 20'

(11-11½ sm starts)

NOTE:

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %

@ 5' try to run a split spoon, hit a piece of log (drived to 6'), POH, will wash & drill w/ a 6" bit.

GM #1 is lined up w/ the 2nd blue flag & Benchmark #12 (elect. pole)

* WOH (weight of Hammer)

BORING LOG

Cym-2

PROJECT NAME Crown Z · PROJECT NUMBER 2913 C21
LOGGED BY Zion Tammam APPROX. ELEV. —
COORDINATES _____ DRILLING METHOD Auger/wash
GWL : DEPTH _____ ACTUAL TIME _____

PAGE 1 OF 1
BORING NO. B-12
DATE STARTED 6/3/85
DATE COMPLETED 6/3/85

14:
18:
drilled
@ 13:30

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

used a 6" bit

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						Auger down to 5' BLs
5'	—	—	— silty clay	Fill	—	0-3' Wood shavings ; shell, sand, creosote (Fill)
	—	—	silty clay	CL	—	3-5' Dark gray silty clay , wood chips trace , creosote
	18"	ST-1	silty clay	CL/ML	—	5-7' Dark-gray silty clay / interbedded w/ clayey silt , wood frag. , roots, & creosote , wood chips.
10'	2"	ST-2	silty clay	CL	—	7-9' Dark gray silty clay , wood frag , trace of sand
CL 2.5' < 4	10"	SP-1		CL	WOH	9-10 Dark gray silty clay , creosote. trace of V.F. sand
	~1"	SP-2	silty clay	CL	WOH	Hit boulder on 2", gray, V.F. sand.
	8"	SP-3	silt and sand	CL/SM	WOH	10-12 Dark gray silty clay , wood frag. trace , creosote, & trace of gray , V.F sand.
15'	8"	SP-4	V.F. sand	SM	WOH	12-14' Dark silty clay w/ pockets of gray, V.F. Sand, wood shavings & frag. saturated w/ creosote the bottom of sample (~2") med. sand.
	8"	SP-5	silty and pockets of sand	CL/SM	—	14-16' gray, V.F. sand, exterior wall of this core was covered w/ creosote, grains were very clean.
silty clay 20'						16-18' Dark-gray silty clay , w/ pockets of gray, V.F. sand , bottom 3" (silty clay), & wood frag. & wood shavings .
25'						T.D. 18'
						Screen 17 - 12'
						Sand/Gravel 17 - 10'
						Pellets 10 - 8'
						grout 8 - 1.5.

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

Pushed first Shelby (ST-1) from 5-7'
ST-1, used a piston, pushed 5-7'
switched to rotary wash from 7' down to T.D.
A 6" pilot hole.

BORING LOG

GM-3

PROJECT NAME Crown Z - Mobile PROJECT NUMBER 49136.21
LOGGED BY Kia C. Zamani APPROX. ELEV. —
COORDINATES — DRILLING METHOD Auger/Wash
GWL : DEPTH — ACTUAL TIME —

PAGE 1 OF 1
BORING NO. B-13
DATE STARTED 6/14/89
DATE COMPLETED 6/15/89

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

"B-13 is about 4' east of B-2 (Install of B-2)

6" bit

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'	8"	silty clay & fill	Fill	—	—	0-5 silty clay / tan silty clay, wood chips & wood (creosote) Frags, shell roots, Fe-o spots, dry, creosote odor & film
		ST-1		—	—	5-7' Pushed from 5' to 7', Dark silty clay, wood chips, roots, gravel, creosote, dry.
10'	0	ST-2	silty clay?	CL	—	* driller says, he drilled & passed through logs & wood frags.
	2'	ST-3	silty clay	CL	—	
trace of Pockets	2'	ST-4		CL/SM	WOH	7-8½ no recovery, (Dark, organic clay - evidence from shelby tube will wash the hole (circulate for 20 MIN.)
15'	2'	ST-5		CL/SM	WOH	8½-10½' Dark, (black) silty clay, saturated w/ creosote, wood frag., wood chips, gravel, (bottom ~1" - trace of V.F. sand.
	2'	ST-6		CL		10½-12½' Dark brown-black silty clay, creosote, roots, wood chips, sand lenses (gray, V.F.)
20'						12½-14½' (2 ft. Recov.) Upper 1½' tan, Dark silty clay w/ sand lenses (gray V.F.) roots, wood chips, saturated w/ creosote oil, (bottom 1/2' - Dark gray, V.F. sand, saturated w/ creosote oil.
25'						14½-16½' Dark-tan silty clay, wood chips increasing @ (fill?), trace of V.F. sand @ the top 1/2', bottom
30'						T.D. (16½) (P&A) of samples CL, saturated w/ creosote oil.

NOTE:

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

* 0-17' Samples are not saturated w/ creosote, but contamination is visualized.

* uniform, V.F. sand starts @ 14' B.L.S.

* did not encounter ground water! (while Augering (0-17'))

BORING LOG

Gm-4

PROJECT NAME Z 913 CZ1 Mobile PROJECT NUMBER Chevron Z

LOGGED BY Tia M. Tasmanian APPROX. ELEV. —

COORDINATES — DRILLING METHOD Rotary wash

GWL: DEPTH ~ 3½' ACTUAL TIME 12:55 Auger

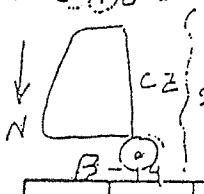
PAGE 1 OF 1

BORING NO. B-14

DATE STARTED 6/4/85 12:40

DATE COMPLETED 6/4/85

B#35 (1) B-2



Scale

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

NW of Arcadia Pond. 30 ft E of CZ/SC property boundary.

Note to office: 6" bit

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
	0-5' Auger	—	Fill sandy silt	ML/SM	—	0-5, light gray sandy silt, shells, water @ 3½' BLS, 0-4½' clean, the bottom ~½' wood chips & creosote (Broken)
5'	15"	ST-1	Fill/clay	CL	0.75	will push shelby from 5-7'. The upper 12", creosote-wood chips & roots, the bottom 3", 5-7' grayish silty clay, soft, dry, creosote odor & spots.
	0	ST-2	—	—	—	
10'	0	ST-3	—	—	—	7'-9' no recov. will wash to 9', then will push from 9-11'
CL	16"	SP-1	Sand	SM	WOH-2-5	
SM	16"	SP-2	Sand	SM	1-1-3	9-11' No Recov.
15'	15"	SP-3	silty sand	SM	1-3-5	11-12½' WOH ("6"), 2, 5 -> Dark-tan, V.F. sand, wet, odor, cr.
	15"	SP-4	Med. Sand	SM	2-4-7	12½-14' (1-1-3) Tan (light) V. F. sand, roots, bottom 4" silty Sand, soft-wet. Creosote odor
	15"	SP-5	11" Sand	SP	5-7-9	
20'	15"	SP-6	11" sand	SP	4-7-10	14-15½' light-tan silty sand, wet, creosote odor, wood shavings trace, roots.
25'	10"	SP-7	M. Coarse Sand	SP	10-18-16	15½-17' light-gray-tan silty sand (V.F. sand) (upper ~12"), bottom 3" light-gray med. sand, wet, odor;
30'						17-18½' gray-white med. sand, abit odor, wet.
						18½-20' white-gray Med-Coarse sand, broken shells, slight odor, wet, trace of gravel.
						25-26½' Same as above. M.-Coarse sand (with 40'
						T.D. 26.5'

NOTE:

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %

ST-1
SP-1
SP-2
SP-3 SM
SP-4 SM
SP-5
CL (5-7') SM collected

16-11' sample
16-9' 20/10
9-7' percent
7-1.5' gravel

BORING LOG

GM-5

PROJECT NAME Crown Z. PROJECT NUMBER L913C71
LOGGED BY Lisa M. Tamres APPROX. ELEV. —
COORDINATES — DRILLING METHOD Auger/Rotary
GWL: DEPTH ~ 5½' ACTUAL TIME 09:50

PAGE 1 OF 1
BORING NO. B-15
DATE STARTED 6/15/87
DATE COMPLETED 6/15/87

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						reamed w/6" bit drilled down to 8½', using 4"
5'	0-5' Augered	-	Fill/ clay	CL	-	0-5 Augered Profile - 0-3½' wood frag., wood chips, silty gravel, creosote oil - ~ 3½-5' gray silty clay, soft, saturated w/ creosote
	0	ST-1	—	—	—	will push a tube from 5-7', no recov. (5-7')
	~2"	SP-1	Fill	—	WOH	7-8½' Dark silty clay, saturated w/ creosote oil, roots, broken shell, gravel, trace of V.F. sand. (Fill?)
10'	15"	SP-2	silty clay	CL	WOH	8½-10' Dark (black) gray silty clay, soft, roots, creosote, wood chips
	15"	SP-3	"	CL	WOH	10-11½' same as above, also wood frag.
	15"	SP-4	silty clay creosote	y sand CL/SM	WOH	
15'	12"	SP-5	silty clay	CL	WOH	11½-13' upper 12", black silty clay, wood chips, roots, creosote; the bottom 3's lenses of V.F. gray sand
	8"	SP-6	clay/L.S.	CL/SM	WOH	13-14½' black silty clay, creosote, wet, roots, trace of V.F sand. (wood chips).
	6"	SP-7	CL	CL	" "	
20'	6"	SP-8	CL	CL	" "	14½-16' same as above w/ lenses of V.F. sand interbedded
	~24"	ST-2	CL	CL	soft	16-17½' mushy black organic silty clay, creosote, wood shavings - chips, trace of V.F. sand
						17½-19' gray silty clay, plastic, wet, soft, odor, trace of wood chips
						19-21' gray silty clay, roots, wood chips, soft, wet. Preserved in shelby.
						TD. 21'
						16½' 11½' screen 11½' 9' 20/40 9' - 7' pellets 7' - L.S. grout.

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

* 5:7' no recov. The exterior of shelby tube wall, indicates silty clay, broken shell & trace sand (V.F.) (Fill)
* Will use split spoon, since recov. of organic clay in shelby is not possible
ST-2 triaxial test

BORING LOG

PROJECT NAME Cranin Z. PROJECT NUMBER 4713C31
LOGGED BY Zia O. Tamamami APPROX. ELEV. ~ 2.6 MSL
COORDINATES _____ DRILLING METHOD Rotary wash
GWL : DEPTH _____ ACTUAL TIME _____

PAGE 1 OF 3
BORING NO. B-16
DATE STARTED 7-1-85
DATE COMPLETED 7-15-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	31'				

west of Aeration p ~ 27' off the dike

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'	6"	SP-1	Shelly sand			0 - 1 1/2 Fill - shells, F. silty sand (white), Woodchips
	6"	SP-2	silty clay	CL	2 for	18" 5 - 6 1/2' Gray silty clay, woodchips, roots, odor & Natural organics
10'	12"	SP-3	silty sandy clay	CL	WOH	10 - 11 1/2' Dark Gray silty sandy clay, V.F. sand lenses, roots, strong odor, Natural organics.
15'	10"	SP-4	V.F. silty sand	CL/SM	2 for 18 WOH	15 - 16 1/2' The upper 8" V.F. silty sand, saturated w/ creosote, The bottom 2", silty sandy clay, Dark brown, roots, organics, woodchip trace.
20'	16"	SP-5	silty clay	CL	WOH	20 - 21 1/2' Gray silty clay, plastic, stiff, The entire length of this sample was visually clean, odor.
25'	19"	SP-6	silty clay	CL	1-1-1	25 - 26 1/2' The upper 7" - Dark brown silty clay, traces of V.F. sand, The bottom 12" - light gray silty clay, stiff; Visually clean, odor (2 samples SP-6 & 7)
30'	15"	SP-7	silty sand	SM/SP	2-10-16	30 - 31 1/2' The upper 11" sandy clay / clay & sand / light gray, stiff, F-M. sand, The bottom 4" F-M. white visually clean sand, slight odor.
35'	16"	SP-8	V.F. sand	SM	WOH-11-15	40 - 41 1/2' off-white, V.F. grained, well rounded sand, no odor, no visual contamination.

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

* start w/ 4" bit down to 31 1/2'
SP-1 was not preserved.
* Changed the bit to 5 3/4" to T.D.

BORING LOG

PROJECT NAME CROWN Z · PROJECT NUMBER 2913 C21 · PAGE 2 OF 3
LOGGED BY Zia-D. Tamimi/ APPROX. ELEV. ~2.6 MSL · BORING NO. B-16
COORDINATES _____ · DRILLING METHOD Rotary wash · DATE STARTED 7-1-85
GWL : DEPTH _____ · ACTUAL TIME _____ · DATE COMPLETED 7-15-0

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	31'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
60'	18"	SP29	Med-SAND	SM / SP	6-10 -12	60-61½' F-Med. sand, orange-Goldish off-white, well Cemented (upper 12"), the bottom 6", goldish yellow-orange coarse sand & Pea gravels No odor, visually clean.
65'						
70'						
75'						
80'						
85'						
90'						

NOTE

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y—	30 – 45 %
AND	45 – 55 %

* ROP is slow due to a great amount of sand (Formation) Sand in drilling mud & wash tub.

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C21 PAGE 3 OF 3
LOGGED BY Zia B. Tamami APPROX. ELEV. ~2.6 msl BORING NO. B-16
COORDINATES _____ DRILLING METHOD R. Wash DATE STARTED _____
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-15-85 4:30 P.M.

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	31'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
90'						* driller says he drills 2 to clayey layers (lenses) @ approx 92'.
95'	18"	SP-10	marine clay	CL/CH	9-12-15	95-96½' Blue, stiff, Marine Clay, Plastic, visually clean, no odor.
100'						T.D. @ 95.0
						95-80 screen 2o/4o & formation sand 95-30' (5 sacks of 20/40) pellets 30-28' 25'-L.S. grout Centralizers @ ~60' & 99'

SM/SP lenses of CL

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y·	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER L913C21
LOGGED BY Zia O. Tamman APPROX. ELEV. ~8.5 msl
COORDINATES _____ DRILLING METHOD Rotary Wash
GWL : DEPTH _____ ACTUAL TIME _____

PAGE 1 OF 3
BORING NO. B-17
DATE STARTED 7-1-8[illegible]
DATE COMPLETED 7-16-8[illegible]

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	9'-9"				

NE of Aeration Pond ~7' due E of GM-4

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'	7"	SP-1	Silty/Sand	Fill/SM	18-14-12	0-1½' Broken shells, topsoil, gray F-M sand
	5"	SP-2	silty clay	CL	1-1-1	5-6½' plastic-med stiff silty clay / gray, dry, wood shavings, wood chips, slight odor.
10'	18"	SP-3	silty sand.	SM	2-2-2	10-11½' V.F. Dark gray sand, roots, natural organics, NO visual contam, odor, well cemented SAND.
15'						
20'	12"	SP-4	SAND	SM	7-11-11	20-21½' Tan, V.F. sand, well cemented; traces of roots & Natural organics, visual contamination, odor
25'						
30'						
35'						
40'	8"	SP-5	SAND	SM	9-12-14	40-41½' Tan-yellow F. SAND, well Cemented, visually clean, slight odor, trace of yellow-gold ish clay.

NOTE:

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %

4" bit down to 13'
SP-1 was not Preserved
& 5¾" bit to T.D., Circulate K. Casing for 30 MIN.
@ 21.5', POH & Circulate for 30 MIN.
* Casing 6" to ~10' (9'-9") Straight.

Geraghty & Miller, In

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 2913C21 PAGE 2 OF 3
LOGGED BY Ziai-D. Tavanaie APPROX. ELEV. ~8.5 MSL BORING NO. B-17.
COORDINATES — DRILLING METHOD R. wash DATE STARTED 7-15-85
GWL: DEPTH — ACTUAL TIME — DATE COMPLETED 7-16-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	9'-9"				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
45'						
55'						B-17 caved in @ 55', had hard time to POH.
60'	2"	SP-6	F. SAND	SM	4-14-23	60-61½', drill stems are clogged up w/ sand, Add-Mix mud, still having problem to drill down. SAME AS SP-5 sample, F. SAND, yellow, No odor, visually clean, well cemented
65'						Changed drilling fluid & add fresh-clean water in the Tub.
70'						
75'						
80'						
85'						
90'	12"	SP-7	SAND gravel	SP	14-30 15-Pen	(1") 88-89½ yellow-gold Coarse sand & Pea gravel, visually clean

NOTE:

TRACE 0-5 %
LITTLE 5-12 %
SOME 12-30 %
—Y 30-45 %
AND 45-55 %

every 15'-20' interval, we circulate the hole & change the drilling Mud in the wash tub.

* SP-6 Not enough Sample (2" recov.) to keep.

BORING LOG

PROJECT NAME Crown Z PROJECT NUMBER 4913C21 PAGE 3 OF 3
LOGGED BY Zia D. Tamimi APPROX. ELEV. ~8.5 msl BORING NO. B-17
COORDINATES ____ DRILLING METHOD Rotary wash DATE STARTED 7-1-85
GWL: DEPTH ____ ACTUAL TIME ____ DATE COMPLETED 7-16-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	97-9"				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
90'						Driller says, he penetrates fine boulder clay @ approx 94.0 But the sample from 96-97½' proved that V.F. sandy beige instead of clay, clay layer was penetrated.
SP/SM/CL 95'	12"	SP-8	V.F. silty sand	SM	18-15-18-	96-97½' gray V.F. sand w/ trace of silt & clay, well cemented, no odor, visually clean.
100'						
105'						
CL/H 110'						
115'	14"	SP-9	Blue fine sandy clay	CH	12-14-21	115-116½' Blue fat marine clay, very stiff, visually clean, no odor, a few V.F. sand lenses interbedded.
120'						

T.D. 115.0

115 - 90' screen
Centerlign @ 88' & 60'
115 - 13' sandpack
13 - 11' Pellets
11 - L.S. grout

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Canal - Z PROJECT NUMBER 2913CZ1 PAGE 1 OF 3
LOGGED BY D HAYDEL APPROX. ELEV. _____ BORING NO. B-18A
COORDINATES _____ DRILLING METHOD Rotary Wash DATE STARTED 7/31/85
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5						GROSSLY CONTAMINATED FROM 3' DOWN
10						
15						
20						
25						
30	18"	SP-1	SILTY CLAY / FINE SAND	CL / SM	21-26-25	28-29.5' — TOP 6" SILTY CLAY, HIGH LEVEL OF CONTAMINATION, (VISUAL), STRONG ODOR. BOTTOM 12" — SAND, FINE, GRAY, VISUAL VERTICAL CONTAMINATION PATHS, STRONG ODOR
35						
40	15"			CL / SM		5" SANDY CLAY, gray,
45						

NOTE

TRACE 0 - 5 %
LITTLE 5 - 12 %
SOME 12 - 30 %
—Y 30 - 45 %
AND 45 - 55 %

Geraghty & Miller, Inc.

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C7.1
LOGGED BY ZIA O. TARMAN APPROX. ELEV. ~3.8 msl
COORDINATES _____ DRILLING METHOD _____
GWL : DEPTH _____ ACTUAL TIME _____

PAGE 1 OF 1
BORING NO. B-18
DATE STARTED 7-1-8
DATE COMPLETED 7-2-8

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						Color
5'	5"	SP-1	sandy silty clay	CL	3-4-6	0-1½' Brown-Redbrick^, stiff, sandy silty clay, dry. no odor, broken shells, roots, V.F. sand grains.
	4"	SP-2	silty clay	CL	1-1-1	5-6½' Black silty clay, saturated w/ creosote, & wood shavings.
10'	17"	SP-3	silty clay	CL	WOH	10-11½' Black organic silty clay, roots, wood shavings, saturated w/ creosote.
15'	17"	SP-4	silty sandy clay	CL/SM	WOH	15-16½' Black organic silty clay w/ Pockets of V.F. gray sand, roots, creosote, wood shavings
20'	18"	SP-5	silty clay	CL	WOH	20-21½' gray silty clay, soft, plastic, odor, Visually clean.
25'	18"	SP-6	silty sand	SM	1-1-1	25-26½' light gray silty sand (Lower clay), V.F. grained, well cemented, veins of creosote all along The length of SP-6 core.
30'						P & A
35'						
40'						

tried to drill w/ a 10" bit in 4 diff spots. ± 1 foot

NOTE:

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %

SP-1 & SP-2 were not preserved

* Casing 6" to 25'?

hit logs (a) ~3' in all 4 spots.

P & A all bore holes.

Geraghty & Miller, In

BORING LOG

PROJECT NAME Crown - Z PROJECT NUMBER 4913C21 PAGE 2 OF 3
LOGGED BY D HAYDEL APPROX. ELEV. _____ BORING NO. B-18
COORDINATES _____ DRILLING METHOD R WASH DATE STARTED 7/31/85
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
50'						
55'						
60'	12"			SM	11-15-11	60-61½' SAND, coarse w/ fine GRAVEL, yellow, coarse
65'						

NOTE

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

BORING LOG

PROJECT NAME Crown 2 PROJECT NUMBER 69136.21 PAGE 1 OF 2
LOGGED BY SMH APPROX. ELEV. BORING NO. 15 MW1
COORDINATES DRILLING METHOD Rotary DATE STARTED 7-31-95
GWL : DEPTH ACTUAL TIME DATE COMPLETED 8-1-95

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
100						101 Rotation up to blade to continue at grade [illegible]
	2.0'	SM-1		SM/SW	[illegible]	105-106½ ½" fine SAND w/little clay, grey, dense, ... 9" clay silty, blue-grey, very stiff ... very thin (< 1/8") laminations of [illegible]
110						

20.' screen @ 85-105' (bls)

TD = 105'

NOTE

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C71 PAGE 1 OF 3
LOGGED BY Zia & Tamami APPROX. ELEV. _____ BORING NO. B-19
COORDINATES _____ DRILLING METHOD R. Wash DATE STARTED 7-9-85 10:
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-12-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	30'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						used a/n" bit down to 30'
5'	10"	SP-1	silty clay	CL	WOH	5-6½' Black organic silty clay, strong odor, wood chips & roots, soft, dry.
10'	10"	SP-2	silty clay	CL	WOH	10-11½' Black organic silty clay, saturated w/ creosote, soft, dry, wood chips.
15'	~12"	SP-3	silty clay	CL	WOH	15-16½' Black organic silty clay, w/ lenses of V.F. gray sand, soft, dry, wood chips, creosote.
20'	18"	SP-4	silty clay	CL	WOH	20-21½' Shopper 11" same as above, saturated w/ creosote
Black CL / gray CL						w/ V.F. sand lenses, the bottom ~7", gray, soft,
25'	14"	SP-5	silty clay	CL	WOH	Plastic silty clay, visually clean, odor.
L-SM						25-26½' soft, light gray silty clay, traced w/ V.F. sand,
30'	14"	SP-6	V.F. SAND	SM	5-6-11	wood shavings, odor, visually clean. 30-31½' F. white sand, visually clean, odor. Driller says, he penetrated the L-sand at ~28'.
35'						
40'	12"	SP-7	V.F. SAND	SM	7-20-15	40-41½' Gray-yellowish V.F. dense sand, wet, trace of natural organics (roots); odor. No visual contam.
						T.D.

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

* Before drilling from bottom casing down, pilot hole was washed thoroughly & circulated to top of the sand for 30 min. B-19

BORING LOG

PROJECT NAME Crown Z PROJECT NUMBER L913CZ1 PAGE 2 OF 3
LOGGED BY ZOT/Zinn APPROX. ELEV. BORING NO. B-19
COORDINATES DRILLING METHOD R. Wash DATE STARTED
GWL : DEPTH ACTUAL TIME DATE COMPLETED 7-17-

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
45'						
50'						
55'						
60'	18"	SP-8	F-med sand	SP	17-22-24	(60-61½') The top 10", tan coarse sand w/ pea gravels, slight odor, the bottom 8", F-med. yellow-goldish sand well cemented, no odor, usually clean (Top to bottom
65'						
70'						
75'						
80'						
85'						
90'	12"	SP-9	Coarse sand	SP/SM	14-20-12.	(90-91½') The upper 14", yellow coarse sand, pea gravels & the bottom 4", gray, V.F. sand, trace of clay soil,

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

Mr. Fermon Lindsey of Ala. Dept. of Env. Mgt. came by @ 10:45 7-19-85 & asked about the Air Quality (Air Division) around C.Z site. I told him that we are firing to monitor the air for phenol & Benzene this week. He was concerned about Scott Paper Co. Air Quality Program.

N

(P-in 115' Aviation) Well B-19

Geraghty & Miller, Inc.

BORING LOG

PROJECT NAME Conway Z. PROJECT NUMBER L713C21 PAGE 3 OF 3
LOGGED BY Zinn-Tamanaha APPROX. ELEV. _____ BORING NO. B-19
COORDINATES _____ DRILLING METHOD Rotary DATE STARTED _____
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-17-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

@ 14:00 drilling to T.D.

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
90'						
95'						* driller says, hepenetrated marine clay @ approx. 100' BLS.
SM 100'				SM		
CH				CH		
105'	15"	SP-10	Marine clay.	CH	27-30 60	105-106½' Blue-fat, Marine clay. w/ lenses of V.F. sand, dry, v-stiff, noodor, visually clean.
110'						
115'						
120'						

T.D. 105.0

105'-90' (screen - 10 slot)
105'-31' (20/40) → (3 sacks of 20/40)
31'-29' pellets
29'-L.S. grout
Centerpoint @ ~88' & 60'

formation SAND (natural caved in up to ~60'

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

project MOBILE state ALA. county

boring no.: B-19 A location ground elev.

start 10[45], 10[55], 9[10] finish 12[00], 3[35], 5[50] total depth 98'

depth to groundwater depth/elev. of ft date

groundwater and

logged by JWO, BAE date of ft date

drilled by THOMPSON measurement 7/6/87, 7/7/87, 7/9/87

depth	soil column	sample type & no.	uscs symbol	# blows	description	well dia	remarks
0		1901A S.S.	SC	1/2/1	SOFT BLK. SA CL TOPSOIL, W/BLK ORG CLAY		CREO. ODOR, WET AT 3'
2		N.S.					
4				2/1/1	NO RECOVERY, BLK. OILY FILM ON WATER		8" CASING, GROUT INSIDE + OUT
		1907A SS.	CL-ORG	1/1/1	BLK CL + ORG, W/LAYER OF WOOD, OILY, STRONG SMELL		CREO. ODOR, OILY
6		1903A SS	ORG	1 for 18"	BLK SAT SOFT LOOSE ORG. SHRT SAMPLE - 5"		
8		1904A SS	ORG	WOH	BLK SAT V. SOFT ORG W/TR SHELL. SHORT SAMPLE - 5"		SAME, SAT.,
10		1905A SS	CL-ORG	WOH	BLK V. SOFT ORG. CL		
12		1906A S.S	CL. ORG. SP	WOH WOR	BLK ORG. CL W/SHELL, TRACE TO V. SOFT SAT SAND LAYER		
14		1907A SS	ORG-CL	WOR	BLK ORG + ORG CL., V. SAT.		
16		1908A SS	CL-ORG	WOR	BLK TO DK GR ORG CL W/ LAYERS OF ORG (GRASS ROOTS) WET SATURATED		
18							

explanations

a-auger cutting c-core

ps-piston sampler st-shelby tube

ss-split spoon ws-water sample

CrownZellerbach

SILT & ORG

sand gravel

clay silt

BORING LOG

project MOBILE state ____ county ____

oring no.: B-19-A location ____ ground elev. ____

start ____ finish ____ total depth ____

depth to groundwater ____ depth/elev. of groundwater ____ ft ____ date

logged by JWD, BAE date of measurement ____ ft ____ date

drilled by THOMPSON measurement 2/6/87, 2/7/87

depth	soil column	sample type & no.	USCS symbol	blows	description	well dia	remarks
20		1909A SS	CL-ORG	WOR	DK BR TO BR V.SOFT CL + ORG. CL W/ GRASS LIKE LAYERS OF ORG. AND W/ SA LENSES		STRONG ODOR, BIT OILY
		1910A SS	CL	WOR	DK GR TO BR V. SOFT ORG CL		V. STRONG ODOR
22		1911A SS	CL-ORG	WOR	ABOVE THEN TRANS TO DK BR V.SOFT CL W/ GRASS LIKE LAYERS OF ORG.		STRONG ODOR, BIT OILY
24		SAMPLE NO.					
26		1912A SS	CL-ORG. SC	WOR	DK GR CL & ORG. CL W/ SAND LENSES 25½'-27½' LT. GR. SA CL (V.SOFT) 27½'-28'		SL. ODOR
28		1913A SS	SC SW	5/5/19	TRANS TO MED LT GR SAND, WELL GRADED, SLIGHT STAIN		STRONG ODOR, CAKED SOIL, SLIGHT STAIN
30		1914A SS	SW	7/8/12	LT GR + MED SA, V.FINE GRAVEL W/ SAL PEA GRAV. NEAR BOTTOM		CAKED SOIL, ORG. ODOR
32		1915A SS	SP	10/15/11	WHITE + LT GR SA, MED. U.F.		"
34		1916A SS	SW	8/7/9	YELLOW SAND, WELL GRADED W/ LT GR PATCHES		NO STAIN, V. SL. ODOR
36							35' - BOTTOM OF 8" CASING

explanations

a-auger cutting c-core

ps-piston sampler st-shelby tube

ss-split spoon ws-water sample

CrownZellerbach

sand gravel

clay silt

BORING LOG

project MOBILE state ALABAMA county _____

boring no.: B-19A location _____ ground elev. _____

start 9^10 finish 5^50 total depth _____

depth to groundwater _____ depth/elev. of _____ ft _____ date groundwater and

logged by JWD, BAE date of _____ ft _____ date

drilled by THOMPSON measurement 7/9/87

depth	soil column	sample type & no.	USCS symbol	#blows	description	well dia	remarks
31							CASING REVEST
40		1917A SS	SW	4/3/9	LOOSE - MED YELLOW, WHITE, & GREY SAND, WELL GRADED		V. SL. CHEM ODOR SLIGHT STAINS
44		1918A SS	SW	4/7/14	MED YELLOW & WHITE SAND W/TR. LG GRAV.		SL. CHEM ODOR NO STAINS
							GROUT
49		1919A SS	SC-SP	5/13/19	YELLOW SA CL W/GRAV (TOP 3") TRANS TO FINE YELLOW SAND		V. SL. TO NO OD.
							BENT. PLUG 50'
							SANDPACK 53½
54		1920A SS	SP	7/11/10	YELLOW COARSE SA & PEA GRAV. W/TR. LG GRAV.		NO ODOR

explanations

a-auger cutting c-core
ps-piston sampler st-shelby tube
ss-split spoon ws-water sample

CrownZellerbach

sand gravel
clay silt

BORING LOG

project MOBILE state ALABAMA county _____

oring no.: B-19A location _____ ground elev. _____

start _____ finish _____ total depth _____

depth to groundwater _____ depth/elev. of groundwater and date of measurement: _____ ft _____ date _____ ft _____ date

logged by JWO, BAE

drilled by THOMPSON

depth	soil column	sample type & no.	USCS symbol	blows	description	well dia	remarks
59		1921A SS	SP-SW	4/14/20	MED, COARSE ORG. SAND, W/TR PEA GRAV. TRANS TO WELL GRADED ORG SAND		NO ODOR
4		1922A SS	SP	11/7/18	MED ORNG COARSE SA W/PEA GRAV., GRAV AT TOP, COULD BE WASHED DOWN FROM ABOVE		65' TOP OF SCREEN SECTION
69		1923A SS	SP	14/15/A	MED-DENSE COARSE ORNG SAND W/PEA GRAV.		SHORT SAMPLE (4") NO ODOR
74		1924A SS	SP	11/10/20	LAYER SM. GRAVEL (8") THEN BR. + ORNG COARSE SA.		

explanations:

a-auger cutting c-core

ps-piston sampler st-shelby tube

ss-split spoon ws-water sample

CrownZellerbach

sand gravel

clay silt

BORING LOG:

project MOBILE state ALA. county _____

boring no.: B-17A location _____ ground elev. _____

start _____ finish _____ total depth _____

depth to groundwater _____ depth/elev. of groundwater _____ ft _____ date

logged by JWO, BAE date of measurement _____ ft _____ date

drilled by THOMPSON

depth	soil column	sample type & no.	USCS symbol	# blows	description	well dia	remarks
79		1925A SS	SP-GP	11/19/37	DENSE YEL. SA (COARSE) AND PEA GRAV.		A LOT OF GRAV, TOP OF S.S. -C BE WASH DOW
84		1926A SS	SP	18/16/20	MED-DENSE COARSE ORNG SA W/GRAV		20/40 SAN
89		1927A SS	SC	17/19/22	DK GR STIFF SA CL W/ORG (9") THEN LT GR CL SA W/TR ORG + SHELL (9")		30' @ 10 FACTOR SCREENED SECTION
94		1928A SS	SC	7/5/5	MED LT GR V. SA (V. FI) CL W/ TR ORG + GRAV.		95' BOTTOM OF WELL
96		1929A			SAME		
98		SHELBY	SC				

END BORING AT 98'

explanations:

a-auger cutting c-core
ps-piston sampler st-shelby tube
ss-split spoon ws-water sample

CrownZellerbach

sand gravel
clay sil

BORING/MONITORING WELL LOG

Boring No. B-1 19B
Sheet 1 of 3

Project Groundwater Monitoring Wells
Mobile, Alabama

Client CFI, Gulfport, Mississippi

File No. 88-2011
Date 5-4-88
By J. Childres

Field Data

Ground Water Level

Depth (feet)

Sampling

Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)

Boring Advance Method: Wash 0' to 110'

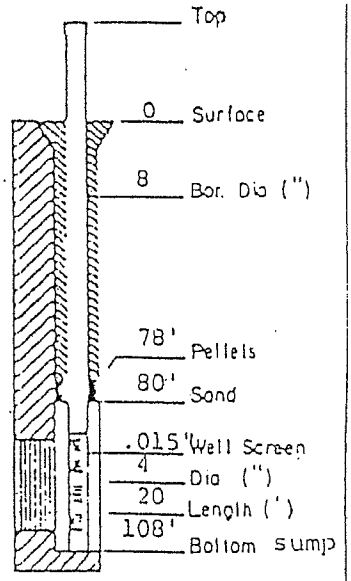
Drill Rig: Mayhew Tractor

Driller: C. Givens

Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
5			Brown Silty SAND Fill
10		(2,2,2) 4b/f	
15		W.O.R.	Soft black ORGANIC CLAY (OH), w/ creosote
20		W.O.H.	--very soft; visible creosote & strong odor
25		W.O.H.	--same
30		W.O.R.	--gray; creosote odor, & less organics
35		(7,12,12) 24b/f	Firm gray SAND(SP), w/visible creosote & odor
40		(10,25,36) 61b/f	--Very dense, creosote odor

MONITORING WELL DATA

Well No B-1/9C



Standard Penetration Test 140 lb Hammer * 30in Fall

Undisturbed Sample 3 inch Dia Shelby Tube

Nt Recovery

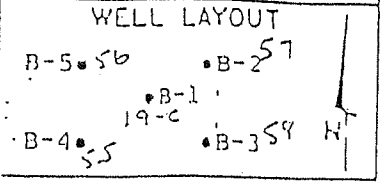
Strata Boundaries Inferred & May Not Be Exact

(continued)

W.O.R. = Split Spoon sank 18" under weight of drill rod

W.O.H. = Split Spoon Sank 18" under weight of rod & hammer

WELL LAYOUT



SOIL TESTING ENGINEERS, INC.

BORING/MONITORING WELL LOG

Boring No. B-1 thru B-3
Sheet 2 of 3

Project: SAME

Client:

File No. 88-2[illegible]
Date 5-15-[illegible]
By J. Childre

Field Data				
Ground Water Depth	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Tonvane (T) (tons/sq ft.)	
	45	X	(15,23,23) 46b/f	Dense gray-white SAND(SP), w/creosote film & odor
	50	X	(15,18,20), 38b/f	--w/tan coarse sand & creosote
	55	X	(8,10,17) 27b/f	--firm, very thin orange sandy clay lenses; slight creosote odor
	60	X	(12,13,18) 31b/f	--dense; creosote odor
	65	X	(7,15,13) 28b/f	--firm, tan, very coarse SAND (SP); very slight creosote odor
	70	X	(10,12,19) 31b/f	--dense; no creosote odor
	75			
	80	X	(16,30,25) 55b/f	--very dense; orange, coarse SAND (SP)

(continued)

X Standard Penetration Test 140 lb Hammer • 30in Fall

Undisturbed Sample 3 inch Dia Shelby Tube

Nt Recovery

Strata Boundaries Inferred & May Not Be Exact

STEI 24

SOIL TESTING ENGINEERS, INC.

BORING/MONITORING WELL LOG

Boring No. B-1198

Sheet 3 of 3

Project

Client SAME

File No. 88-2011

Date 5-15-88

By J. Childress

Field Data				
Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
	85			very dense orange coarse SAND (SP)
	90		50b/f. N.C. (25,25)	--same; No odor
	95		50b/7" (43,7/1")	--same; No odor
	100		(7,12,14) 26b/f	Firm gray SILTY SAND (SM), w/clay trace; No odor
	105		(8,1,18) 19b/f	--white; No odor
	110		(14,26,27) 53b/f	Hard Gray SILTY CLAY (CL); No creosote odor
				Boring Terminated @ 110'

Standard Penetration Test
140 lb Hammer • 30 in Fall

Undisturbed Sample
3 inch Dia Shelby Tube

Nc Recovery

Strata Boundaries Inferred & May Not Be Exact

N.C. = No cull

WELL LAYOUT

SOIL TESTING ENGINEERS, INC.

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C71 PAGE 1 OF 3
LOGGED BY Z.A.S. Tarimani APPROX. ELEV. _____ BORING NO. B-20
COORDINATES _____ DRILLING METHOD Rotary wash DATE STARTED 7-2-85
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-19-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	29'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						used a 4" bit. down to 31½'
5'	12"	SP-1	SAND	SM	4-5-4	0-1½' Top 8" orange-red V.F. sand, bottom 4", Dark gray/reddish V.F sand, wood frag. & woodchips/Fill.
	14"	SP-2	sandy silt clay	CL/SM	WOH	5-6½' Black organic clay, wood chips/wood frag. Roots imbedded w/V. F. sand. slight odor
10'	14"	SP-3	SAND	SM	1-1-1	10-11½' V.F — F. Sand, Dark gray, slight odor, roots
15'	15"	SP-4	clayey silt	CL/SM	WOH	15-16½' Black-gray sandy silty clay/silty clayey sand, V.F. Sand, Natural organics - roots, slight odor.
20'	18"	SP-5	silty clay	CL	WOH	20-21½' Dark gray silty clay, visually clean, no odor, soft, plastic
25'	18"	SP-6	silty clay	tiny CL	2-1-1	25-26½' Top 7" Dark gray silty clay, wood frag. & piece, The bottom 11", light gray silty clay, soft, lot of silt content, lots of roots & Nat. organics, visually clean, no odor
30'	18"	SP-7	SAND	white SM	9-17-22	30-31½' V.F. white sand (lower sand), odor, visually clean, well cemented.
35'						
40'	14"	SP-8	SAND	SM	12-20-32	40-41½' Tan-yellowish F. sand, well cemented, slight odor, no visual contamination

↓ SM

7' white sand

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

☆ before drilling further down (from Bottom of 6" casing down), the borehole & the casing were flushed w/ fresh water for ca. 35 min.

BORING LOG

PROJECT NAME Crown Z PROJECT NUMBER 4113C.21 PAGE 2 OF 3
LOGGED BY Z.A.D. Terrano APPROX. ELEV. — BORING NO. B-2.0
COORDINATES _____ DRILLING METHOD R-Wash DATE STARTED _____
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-19-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	27'				

DEPTH 45'	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
50'						
55'						
60'	18"	SP-9	SAND	SP	25-50 30	60 - 61½' gray - yellowish F - Med. Sand, well cemented slight odor, visually clean, large gravels & Pea gravels.
65'						
70'						
75'						
80'						
85'						
90'						

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

6"

BORING LOG

PROJECT NAME Ground Z. PROJECT NUMBER 4717 C21 PAGE 3 OF 3
LOGGED BY Zin-D. Zaman APPROX. ELEV. _____ BORING NO. B-20
COORDINATES _____ DRILLING METHOD _____ DATE STARTED _____
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-17-82

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	2'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
95'						
100'						
105'						
110'						+ Driller says, he penetrated Blue clay @ 110.0
115'	15"	SP-10	Blue clay	CH	14-25 - 2.4	115-116½' Blue Marine "fat clay", pockets of V. F. sand interbedded, visually clean, No odor.
120'						

P
CH

T.D. 115' / Bottom of well

105 - 90' Screen @ 105
90 - 32' Sand pack (20/40)
32 - 30' Pellets
30 - 2.5' grout
centralizers @ ~95' & 60'

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

* Conduit set 6-20 inch @ 115, filter c.c. to 105, Cavedin (closed in from 105 - 115'), Blue clay starts @ approx. 110'.

BORING LOG

PROJECT NAME Crown Z PROJECT NUMBER 4913C21
LOGGED BY Zia Tavana APPROX. ELEV. _____
COORDINATES _____ DRILLING METHOD Rotary wash
GWL : DEPTH _____ ACTUAL TIME _____

PAGE 1 OF 3
BORING NO. B-21
DATE STARTED 7-2- 07:3
DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	29', 6"				

B-20 Vacuum Pond B-21 N

4" bit

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'	8"	SP-1	sand	SM	1-1-1	0-1½' Re-mapped 3", Dark brown silty clay w/ roots, brick & Natural organics, the rest of sp-1, white, yellowish med. sand, slight odor, Also wood shavings
	15"	SP-2	sand	SM	2-2-6	5-6½' Dark gray V. Fine silty clayey sand (Top 6"), the rest of sp-2 F. - Sand, Dark gray, w/ roots & wood shavings & Natural organics, slight odor, visually clean.
10'	15"	SP-3	sand	SM	6-7-9	10-11½' The top 10", Dark gray. M. sand, visually clean, wood frag. & particles, The follow 5", V.F.-F. sand, slight odor
15'	15"	SP-4	silty sand	SM	2-1-1	15-16½' Dark gray silty clayey sand, V.F. grained, Natural organics, wood frag., slight odor
SM CL 20'	18"	SP-5	silty clay	CL	1-1-1	20-21½' gray silty clay, plastic, soft, no visual contamination, slight odor, wood frag. & roots
25'	18"	SP-6	silty clay	CL	1-1-1	25-26½' light gray silty clay w/ 3"-4" of V.F. sand, Natural organics increase., roots & wood frag. No odor, visually clean.
SM water sand 30'	5"	SP-7	sand	SM	8-12-14	30-31½' gray, V.F. sand, visually clean, slight odor. * Driller says, he penetrates sand @ ~ 27.5'-28.0'
40'						

NOTE:

TRACE 0 - 5 %
LITTLE 5 - 12 %
SOME 12 - 30 %
—Y 30 - 45 %
AND 45 - 55 %

* 6" casing is set down to 29', 6" BLS.

BORING LOG

PROJECT NAME Crown II — PROJECT NUMBER 4913C81 — PAGE 2 OF 3
LOGGED BY Scott M. Bergeron — APPROX. ELEV. — BORING NO. B-21
COORDINATES — DRILLING METHOD R wash — DATE STARTED 7-22-85
GWL : DEPTH — ACTUAL TIME — DATE COMPLETED

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
50						
55						
60	5"	51-9		SM	11-15-11	60-61 ft'
65						8"
70						
75						
80						
85						

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913271 PAGE 3 OF 3
LOGGED BY [illegible] APPROX. ELEV. _____ BORING NO. [illegible]
COORDINATES _____ DRILLING METHOD R. WASH DATE STARTED [illegible]
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED [illegible]

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
95		cuttings				gray clay
	18"	SA-10	screen		1-5-5	95-96 ft blue gray sandy clay, stiff, plastic, no recovery. Marine clay is probably just below this
100						screen 80-95
105						2 centralizers installed (one just above screen (one at 60' etc
110						measurements for gravel pack @ 113' 20/40 sand (3 buckets) set sock @ 96'
115						1 bucket bentonite installed
120						

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Crown Z — PROJECT NUMBER 4913C21
LOGGED BY Zia O. Farnam — APPROX. ELEV. —
COORDINATES — DRILLING METHOD Rotary wash
GWL : DEPTH — ACTUAL TIME —

PAGE 1 OF 3
BORING NO. B-12
DATE STARTED 7-2-87
DATE COMPLETED —

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	29'.6"				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						used a 4" bit down to 31½'
5'	10"	SP-1	Sand	SM	2-3-3	0-1½ Same as (B-21), the upper 4", Dark brown silty clay, roots, broken shells, wood frag., The bottom 6", F.-Med, gray sand, w/roots, visually clean, odor.
	12"	SP-2	silty clayey sand	CL/SM	2 for 1.5	5-6½' The upper 8", black natural organic silty clay/ clayey sand, roots, wood shavings, visually clean, slight odor, the bottom 4" F.-M. gray sand w/ roots, visually clean.
10'	12"	SP-3	Sand	SP	2-2-3	10-11½' F. gray sand, Natural organics, wood frag., roots, odor, visual contamination and Creosote film, shiney.
15'	10"	SP-4	Sand	SM	3-6-6	15-16½' V.F. gray sand, wood frag., visual contamination
H 20'	16"	SP-5	silty clay	CL	1-1-1	20-21½' Dark gray silty clay, plastic, odor, wood frag., soft, natural organics.
25'	15"	SP-6	silty clay	CL	1-2-1	25-26½' The top 11", same as above, wood frag. increase, The bottom 4", light gray silty clay, odor, soft, much less (Natural) organics.
S 30'	10"	SP-7	Sand	SM/SP	8-10-20	30-31½'* (Driller says that the penetrate Sand @ 28½'), The top 3", Dark grey F. sand, the bottom 7" clean, white F. Sand w/ orange med. grains.
35'						
40'						
45'						

NOTE:

TRACE 0 - 5 %
LITTLE 5 - 12 %
SOME 12 - 30 %
—Y 30 - 45 %
AND 45 - 55 %

* 6" casing down to 29' or 30'.

BORING LOG

PROJECT NAME C. BROWN 2 PROJECT NUMBER 4913C31 PAGE 2 OF 3
LOGGED BY _____ APPROX. ELEV. _____ BORING NO. B-22
COORDINATES _____ DRILLING METHOD ROTARY WASH DATE STARTED 1/
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
30'						
35'						
40'	14"	SPT	SAND	SM	12-16	[illegible] F-M SAND, NO ODOR, shell fragments, [illegible]
45'						10" [illegible]
50'						1" [illegible]
55'						[illegible]
60'	18"	SPT			6-12	60-61½' 12" [illegible]
						1" [illegible]
						5" [illegible]
70'						[illegible]

NOTE

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

BORING LOG

PROJECT NAME Crown 7 PROJECT NUMBER L-9120-71 PAGE 3 OF 3
LOGGED BY _____ APPROX. ELEV. _____ BORING NO. B-12
COORDINATES _____ DRILLING METHOD Rotary Wash DATE STARTED _____
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
75'	6"			SM	2.5+	5" 75. yellow/tan medium coarse sand, some gravel, clean, some silt
80'						
85'						
90'						
95'						
100'						
105'						
110'						110' drilled slowly getting into more clay
			sandy clay			gray clay
	0'	SP-11		CH	0.15-.25	115-118½ blue marine clay, very stiff, micaceous, no silt

NOTE

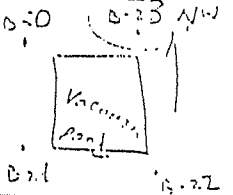
TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

5-Cream 95-115' b/s
Fine sand & gravel

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 2913C21 PAGE 1 OF 3
LOGGED BY Zia D. Tamimi APPROX. ELEV. _____ BORING NO. B-23
COORDINATES _____ DRILLING METHOD Rotary wash DATE STARTED 7-2-85
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-18-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	31'				



DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0	12"	SP-1	SAND	SM	1-1-1	0-1½' orange-red sand, F. grained, no odor, clean
5'	3"	SP-2	silty clay	CL	WOH	5-6½' Dark-gray-black silty clay, Natural organic, roots
10'	15"	SP-3	SAND	SM	5-7-9	10-11½' gray F. sand, well cemented, roots, contaminated.
15'	15"	SP-4	SAND	SM	4-4-6	15-16½' same as above " " Contaminated
20'	15"	SP-5	silty clay	CL	(WOH-1-2)	20-21½' drillers log (says CL @ 18'), the upper 8" black silty clay, wood frag. & shavings, roots, bottom 7" gray silty clay, plastic, soft, strong odor.
25'	15"	SP-6	silty clay	CL	WOH	25-26½' lack of organics. same as above (organic clay, strong odor)
30'	15"	SP-7	silty clay	CL	3-3-7	30-31½' gray-stiff, silty clay, odor, no roots/or organics, visually clean
35'	15"	SP-8	white SAND	SM/SP	(12-17-25)	35-36½' well cemented, F. white sand, visually clean, odor.
40'	0"	SP-9	F. SAND	SM	12-21-28	40-41½' white-gray F. sand, well cemented, visually clean, odor, no natural organics

SM
CL
CL
Lower Sand

NOTE

TRACE 0 - 5 %
LITTLE 5 - 12 %
SOME 12 - 30 %
—Y 30 - 45 %
AND 45 - 55 %

* SP-2 Not much recovery.

BORING LOG

PROJECT NAME Crown Z PROJECT NUMBER 4113 C2.1 PAGE 2 OF 3
LOGGED BY Zia M. Tamrazi APPROX. ELEV. – BORING NO. B-23
COORDINATES – DRILLING METHOD Rotary Wash DATE STARTED
GWL: DEPTH – ACTUAL TIME DATE COMPLETED 7-19-

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	31'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
45'						
50'						
55'						
60'	0	SP-10	Med-coarse sand	SM/SP	S-7-8	No recovery / Mud return indicates med.–coarse sand, yellowish, with pea gravel.
65'						
70'						
75'						
80'						
85'						
90'						~91' Mud return shows gray silty clay & long pieces of wood in Natural organics Chips

* SP-10 No Recov.

NOTE:

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C21 PAGE 3 OF 3
LOGGED BY Z. Jim M. Tamami APPROX. ELEV. — BORING NO. P-23
COORDINATES _____ DRILLING METHOD R. Wash DATE STARTED _____
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-18-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	31'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
90'						
95'	12"	SP-11	SAND	SP	15-53 10(3")	91½-93' The upper 4", gray silty clay (lenses) with wood frags, the bottom 8", Coarse yellow-tan sand, large gravels & pea gravels, visually clean, No odor.
100'						
105'						
110'	10"	SP-12	F-Med SAND	SM	22-30 -41	106½-108' Tan-yellowish F-Med sand, w/ a few gravels & pea gravels interbedded, visually clean, No odor
115'						
SM						
120'	18"	SP-13	Native marine clay	CL	12-12 -20	120-121½' Blue-Marine clay, w/ V.F. sand pockets/interbedded, V. stiff. clean, no odor. T.D. 120'

120-95' (screen) 25' of screen
120-33' (sand pack) 16 sacks of sand
33-31' (Pellets)
31'- L.S. grout

centralizers @ 94' & 60'

NOTE: ~~T.D.~~ 93' ROP was V. slow due to sand-gravels & wood frags.

TRACE 0 - 5 %
LITTLE 5 - 12 %
SOME 12 - 30 %
—Y 30 - 45 %
AND 45 - 55 %

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913.71 PAGE 1 OF 3
LOGGED BY Lia M. Tamm APPROX. ELEV. — BORING NO. P-24
COORDINATES — DRILLING METHOD 8" Wash DATE STARTED 7-8-8
GWL: DEPTH — ACTUAL TIME — DATE COMPLETED 7-12-8

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	30.6'				

~100' E of DG-2 W/ the shore of E of the bridge

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
			used a 4" bit down to 36.5'			
5'	8"	SP-1	SAND	SM	2-4-3	0 - 1½'/ the upper 4", orange-reddish F. sand, the bottom 4", dark gray sand, wood chips/Frag., roots, dry, no odor.
	2"	SP-2	silt, clay CL	CL	1-1-2	5 - 6½'/ Dark gray-black silty clay, roots, wood frag., roots, trace of v.F. sand., dry, no odor.
10'	8"	SP-3	SAND	SM	5-8-9	10 - 11½' Dark-gray, F. sand, roots, visually clean, wet, well cemented, slight odor.
15'	8"	SP-4	SAND	SM	3-3-4	15 - 16½' same as above/ no roots, Natural? organic Noodor.
20'	18"	SP-5	silty clay	CL	WOH	20 - 21½' Dark-gray, plastic, soft, silty clay, roots, Pokets of V.F. sand interbedded, noodor, visually clean, driller says, he encountered CL @ 17.5'
25'	18"	SP-6	light gray silty clay	CL	1-1-1	25 - 26½' the upper 4" dark-gray silty clay, w/roots & wood frag., trace of v.F. sand, the rest of SP-6, light-gray silty clay, plastic, soft, roots slight odor.
30'	18"	SP-7	Bluish gray silty clay	CL	2-4-5	30 - 31½' Bluish-gray silty clay, plastic, stiff, no roots, visually clean, no odor; trace of sand; a few Fe oxide spots (mottled), w/ the upper 4", Dark-gray F. sand, the bottom 4" F. white, visually clean sand, no odor. driller says he encountered the L. sands @ 32-0'.
35'	8"	SP-8	white sand	SM/SP	11-11-9	35 - 36.5'
40						

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

* SP-2/ only 2" recov, it was not kept/collected.
* SP-6 a good CL sample for Yuerry diff. test.
SP-8 was not collected/visually analyzed & described.

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C21 PAGE 2 OF 3
LOGGED BY Eric O. Tammaccaro APPROX. ELEV. _____ BORING NO. B-24
COORDINATES _____ DRILLING METHOD R. Wash DATE STARTED 7-11-85 (9:50)
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-12-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	30'+2"				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
35'						circulate w/ fresh water through the 6" casing for ~20 min. before drilling deeper into the L. Sand. used a bit of 5 3/4" from the bottom of casing to T.D.
40'	18"	SP-9	L. white SAND	SM	4-6-10	41 - 42 1/2' the upper 12" F.-Med. white sand, well cemented, no odor, visually clean, the lower 6", V.F. white sand, clean, no odor.
45'						
50'						
55'						
60'	8"	SP-10	Coarse SAND/ gravel	SP	7-10-15	60 - 61 1/2' yellow-gold coarse sand & pea gravel, well cemented, clean, no odor.
65'						
70'						
75'						* Driller says we encountered & drilled into the L. Blue Marine clay @ approx. 95'.

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y·	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Crown Z PROJECT NUMBER 1113C21 PAGE 3 OF 3
LOGGED BY ZOF APPROX. ELEV. _____ BORING NO. B-24
COORDINATES _____ DRILLING METHOD R. Wash DATE STARTED 7-11-85
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-12-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	30-8"				

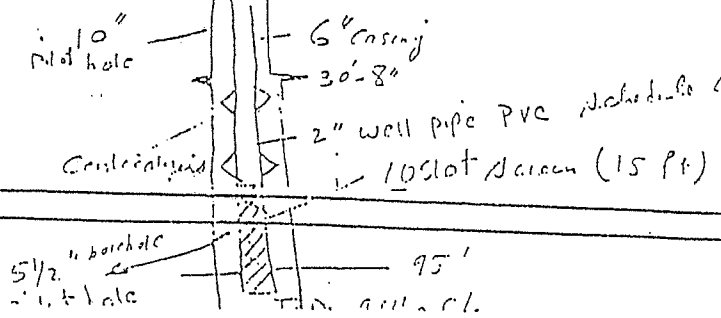
011 m
A.M.

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
80'						
85'						
90'						
95'	12"	SP-11	SM/CL	SAND silty clay	8-4-3	95-96½' The upper 6" coarse SAND (yellow-gold), pea gravel, & the bottom 6", blue marine clay, stiff, no odor visually clean.
100						T.D. 97'

85-ft of pipe (3-ft of riser)
15' ft of screen 97'-82' (2-ft of screen in marine CL, a natural sump)
20/40 sand 97'-30'
30-28½ Pellets
28½ - surface grout
2 = Centralizers (one above screen (82') & one at 60')
(6½ bags of 20/40)

NOTE

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %



BORING LOG

PROJECT NAME Crown Z PROJECT NUMBER 4913C71 PAGE 1 OF 2
LOGGED BY Zia O. Tammam APPROX. ELEV. _____ BORING NO. B-25
COORDINATES _____ DRILLING METHOD R. Wash DATE STARTED 7-2-85 10:35
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	27"				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						A 4" bit down to 31½'
	6"	SP-1	shell	Fill	14-17-7	0-1½' hard sandy shell, Fill, clean.
5'	3"	SP-2	silty clay	CL	1-1-1	5-6½' black organic silty clay, wood frags., dry, no odor
10'	12"	SP-3	F. SAND	SM	8-8-7	10-11½' dark gray F. sand, wood chips/shavings, roots, no odor, visually clean, well cemented.
15'	8"	SP-4	F. SAND	SM	3-8-7	15-16½' SAME as above, trace of Natural organics.
20'	1½"	SP-5	V.F. SAND	SM	2-3-3	20-21½' V.F. gray sand, wet, loosely cemented, clean, no odor, no Natural organics.
25'	12"	SP-6	V.F. SAND	SM	1-2-3	25-26½' V.F. - F. gray sand, clean, no odor,
30'	18"	SP-7	sandy silty clay	CL/SM	2-2-5	30-31½' light gray, Plastic, Med. sandy silty clay, wood frags & shavings, slight odor., bottom 4", F. white sand.
35'						
40'						

NOTE ☆ SP-2 & SP-5 / not much Recov.

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Cronin - Z PROJECT NUMBER 4913C71 PAGE 2 OF 2
LOGGED BY D. HATOEL APPROX. ELEV. _____ BORING NO. B-25
COORDINATES _____ DRILLING METHOD R WASH DATE STARTED 7-8-8
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-19-8

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (T.S.F.)	DESCRIPTION
50						
55						
60	6"	SA9	MED SAND	SM	9-11-36	LT. BRN, MED. SAND, TRACE SILT, ORANGE BOTTOM 2" OF SAMPLE 60-61.5'
80						
100			SAND	SM		MED SAND GRADING TO FINE DOWNWARD,
		SA-10	CLAY	CL	14-11-R	CONTACT @ 110' TO BLUE CLAY, PLASTIC SOME SILT; SAMPLE 109-110.5'
120						
						TD 109
						Screen 94-109 #1 15'

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C21 PAGE 1 OF 2
LOGGED BY Zia-ul-Haq APPROX. ELEV. -- BORING NO. B-26
COORDINATES _____ DRILLING METHOD R. Wash DATE STARTED 7-8-85 13:
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	10'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
						Gray
	8"	SP-1	sandy silty clay	SM/CL	3-3-5	0-1½' Sandy silty clay, wood chips, broken shells, V.F. sand, visually clean, no odor. dry.
5'	12"	SP-2	silty clay	CL	1-1-1	5-6½' Highly natural organic silty clay, wood shavings & roots, dry, no odor, visually clean.
10'	14"	SP-3	sand	SM SAND	1-1-1	10-11½' V.F-F. gray, wet sand, lots of roots & natural organics, well cemented, no odor, visually clean.
15'	~12"	SP-4	SAND	SM	2-2-3	15-16½' F. gray, wet sand, natural organics, wood frag., no odor, visually clean
20'	12"	SP-5	SAND	SM	1-1-1	20-21½' Same as above, less natural organics.
25'	78"	SP-6	light gray clay	CL	1-1-1	25-26½' the upper 3", black organic clay, no odor, the rest of this core is light gray, silty clay, soft, plastic, w/pockets of V.F. sand, visually clean, no odor.
30'	10"	SP-7	white sand	SM	15-18-28	30-31½' white V.F.—F. sand, visually clean, no odor, well cemented.
35'						✠ Driller says, he penetrated L.sand. @ ~ 29.0'

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Crown-Z PROJECT NUMBER 1913.CZ1 PAGE 2 OF 2
LOGGED BY D. HAYDEL APPROX. ELEV. — BORING NO. C-26
COORDINATES _____ DRILLING METHOD Air Wash DATE STARTED 7-8
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7/30/8

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
45						
50						
55						
60	6"	SA-9		SM	6-10-12	60-61.5' LT BRN TO ORANGE FINE TO MED SAND CLEAN, LOOSE, NO ODOR
65						
90						
100						HARD DRILLING BUT NO CLAY RETURN
105	10"	SP-9			15-45-110 FOR 4"	105-106.5' BLUE CLAY, VERY STIFF, PLASTIC; TAN-ORANGE MED SAND ON BOTTOM 1-2" OF SAMPLE
110						SCREEN STUCK AT 65-85'. WELL COMPLETED AT THIS DEPTH
120						SCREEN 65-85'; GRAVEL PACK 85'

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Ground Z · PROJECT NUMBER 4913C21 · PAGE 1 OF 2
LOGGED BY Zia M. Tamrami · APPROX. ELEV. _____ · BORING NO. B-27
COORDINATES _____ · DRILLING METHOD Rotary Wash · DATE STARTED 7-9-85 07:45
GWL : DEPTH _____ · ACTUAL TIME _____ · DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	10'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'	4"	SP-1	organic & shell	F;ll	7-3-5	0 - 1½' Broken shells, organics (natural), wood chips, dry no odor.
	0	SP-2	—	—	2 to 18"	5 - 6½' No recovery — silty clay (N. organics ?)
10'	8"	SP-3	silty clay	CL	WOH	10 - 11½' Tan-gray silty clay, N organics & roots, dry, moist, no odor, visually clean.
15'	18"	SP-4	V.F. sand	SM	1-1-2	15 - 16½' Tan-gray, V. F. sand, trace of Natural organics, wet, well cemented, no odor, No visual contamination
20'	18"	SP-5	V.F. sand	SM	8-8-8	20 - 21½' SAME AS ABOVE
25'	18"	SP-6	F. white sand	SM SP	10-11-12	25 - 26½' F. white Sand, well Cemented, no odor, no visual Contamination.
30'						
35'						

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Crown Z — PROJECT NUMBER 1913C21 — PAGE 2 OF 2
LOGGED BY D. HAYDEL — APPROX. ELEV. — BORING NO. B-27
COORDINATES — DRILLING METHOD R. WASH — DATE STARTED 7/19/85
GWL: DEPTH — ACTUAL TIME — DATE COMPLETED 7/21/85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH HS	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
50						
55						
60	8"	SP-8	COARSE BROWN SAND	SM	1.0-3.0	MED. BROWN-ORANGE SAND, LITTLE FINE GRAVEL, NO ODOR
70						
80						
90		SP-9 #1	COARSE TO FINE SAND	SM	4-5-5	#1 SAND, COARSE TO FINE, LITTLE FINE GRAVEL NO ODOR
			BLUE-GRAY CLAY	CL		#2 CLAY, FAT, PLASTIC, MEDIUM, BLUE-GRAY, NO ODOR, NATURAL ORGANICS PRESENT
100		SP-9 #2				
110						TD = 96'

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

65-95
SCREEN 2" PVC 0.16"

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 1913CZ1 PAGE 1 OF 4
LOGGED BY Zia O. Tamami APPROX. ELEV. _____ BORING NO. B-2H
COORDINATES _____ DRILLING METHOD R-Mobile DATE STARTED 7-9-85 13:15
GWL: DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
8"	12'-7"				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'	8"	SP-1	V.F. SAND, Dark, wood chips	FILL	7-14-24	0-1½' V.F. sand, tan, on the top, followed by wood chips, & broken shells, dry, odor, no visual contamination.
	4"	SP-2	SAND	SM	3-1-1	5-6½' V.F. tan-gray sand, traces of silty clay, roots & wood shavings, no odor.
10'	14"	SP-3	silty clay organic	C.L.	WOH	10-11½' Dark, black organic silty clay, increased wood shavings, no odor.
15'	12"	SP-4	V.F. sand	SM	14-12-12	15-16½' V.F. gray-wet sand, well consolidated, no odor, visually clean.
20'	14"	SP-5	V.F. SAND	SM	7-8-6	20-21½' Same As above, No odor
25'						
30'						
35'						
40'						

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

BORING LOG

PROJECT NAME Carnival Z PROJECT NUMBER 4713 C21 PAGE 2 OF 4
LOGGED BY Zia A. Tanveer APPROX. ELEV. — BORING NO. B-28
COORDINATES — DRILLING METHOD — DATE STARTED —
GWL : DEPTH — ACTUAL TIME — DATE COMPLETED —

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
4"	12', 1"				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
45						
50						
55						
60	10"	SP-7	Sand Fine-med	sm/sp	3-8-8	60-61½' F-med, orange-yellow sand. w/clay lenses, well cemented, wet, pea gravel. no odor.
65						
70						
75						
80						
85						

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

between 50'-60' lenses of clay were detected, checked the cuttings. soft, plastic w/ some quartz fine
* driller encountered gray clay lenses (2) approx. 59' Bls.
* (2) approx: 79', drilled into clayey sand.

BORING LOG

PROJECT NAME _____ PROJECT NUMBER _____ PAGE 3 OF 4
LOGGED BY _____ APPROX. ELEV. _____ BORING NO. B-2
COORDINATES _____ DRILLING METHOD _____ DATE STARTED _____
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
90						
95						
CL 100						
SM w/ clay 105						
110						
115						
SM 120	15"	SP-8	silty clayey sand	SM	21-14-16	121 – 122½' The top 9" consists of light brown – organic F. – med sand, well cemented, quartz; the bottom 6" consists of light gray, plastic silty clay sand w/ silty clay lenses, traces of fine gravels all along the length of this sample. No odor.
CL & SM 125						
130						
135						

NOTE:

TRACE	0 – 5 %
LITTLE	5 – 12 %
SOME	12 – 30 %
—Y	30 – 45 %
AND	45 – 55 %

BORING LOG

PROJECT NAME _____ PROJECT NUMBER _____ PAGE 4 OF 4
LOGGED BY _____ APPROX. ELEV. _____ BORING NO. E-25
COORDINATES _____ DRILLING METHOD R.wash DATE STARTED _____
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 7-8-85
14 gpm/hr.

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
140						
	15"	SP-9	clay	CH	13-16-14	142 - 143½' Blue marine, fat clay, trace of Fe O, very stiff, dry, No odor
145						
150						

T.D. 142'

142 - 102' blank (40')
102 - 92' screen (10')
92 - 72' blank (20')
72 - 62' screen (10')
62 - 42' blank (20')
42 - 22' screen (20')
+ 24½' blank

20/40 142 - 14'
14 - 12' Pellets
12 - 2.5 grout

Centeralizers @ 93' & 61'

NOTE:

TRACE 0 - 5 %
LITTLE 5 - 12 %
SOME 12 - 30 %
—Y 30 - 45 %
AND 45 - 55 %

BORING LOG

PROJECT NAME CROWN SCHENECTADY PROJECT NUMBER 19136271 PAGE 1 OF 2
LOGGED BY MAS APPROX. ELEV. _____ BORING NO. B-5W
COORDINATES _____ DRILLING METHOD _____ DATE STARTED 9-15-95
GWL : DEPTH _____ ACTUAL TIME 16:15 DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
4"	21'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0						
5						
10	9"	SP-1	organic silty sand	SM	3-4-4	Top 9" UNRECOVERED SP-1 (10'-11½') = BOTTOM 9" = Dark Brown, SAND, f.-med. grained, organics, no odor, wet, well cemented
15						Head is clogged (rock) @ 17'-17.5'
20	18"	SP-2	Blue Gray Silty Clay	CL	4-5-9 (stiff)	SP-2 (20'-21½') = Grey CLAY, dry, hard, plastic, some organics, no odor
		ST-1	Fine Silty Sand	SM/SM		ST-1 (22'-24') = TOP → Brown sand w/ clay lenses → soft gray clay BOTTOM → ORANGE SILTY SAND, W/ ORGANICS, WET, NO ODOR
25	13"	SP-3		SM	11-10-12	DRILLER SAYS HE COULDN'T YELL WHEN HE PENETRATED CLAY BECAUSE IT IS SO STIFF SP-3 (26'-27.5') = TOP 6" = ORANGE F. SAND w/ clay lenses & red, NO ODOR NEXT 8" = blue-gray CLAY, plastic, NO ODOR. BOTTOM 4" = wet dark brown SAND, silty & clay
30	9"	SP-4		SM	5-7-12	SP-4 (30'-31½') = white - Orange SAND, F-MED. grained, No odor, wet (Top 9" was 1" thick)
	8"	SP-5		SM		SP-5 (31½'-33') = orange → light brown (wet) SAND, f.-med grain, wet, no odor, no noticeable organics
35						
40						

NOTE

TRACE 0 – 5 %
LITTLE 5 – 12 %
SOME 12 – 30 %
—Y 30 – 45 %
AND 45 – 55 %

TAKE SP SAMPLE @ 10', 20', and @ CL/SM CONTACT.
TAKE ST SAMPLE @ GRAY CLAY.

BORING LOG

PROJECT NAME Crown Zellerbach PROJECT NUMBER 4913C.21 PAGE 2 OF 3
LOGGED BY MAJ APPROX. ELEV. BORING NO. B-29
COORDINATES DRILLING METHOD DATE STARTED 9-19-85
GWL: DEPTH ACTUAL TIME DATE COMPLETED

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0						
5						
10						
15						
20						Casing struck @ 21.0' (in the stiff clay) we will set casing here, since there was no visible contamination down to 23.5'
25						
30						
35						
40						

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

① T.D. =
② Screen Interval =
③ 20/40 gravel pack interval =
④ Bentonite interval =
⑤ Grout =

BORING LOG

PROJECT NAME Ashtabula PROJECT NUMBER 4913C21 PAGE 3 OF 3
LOGGED BY MAJ APPROX. ELEV. _____ BORING NO. B-21
COORDINATES _____ DRILLING METHOD _____ DATE STARTED 9-21-15
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED _____

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
12"	21'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0						
5'						
10'						
15'						
20'						1st encountered sand @ ~29.0'
25'						CP-1 (35'-36½') =
30'						
35'	10"	CP-1			9-10-13	TOP 3" not recovered NEXT 5" orange SAND, fine-med., wet, contains some cobbles, no odor BOTTOM 5" = mottled SAND, fine-med, wet, no odor. Heavily clayey
40'						

SM
:P

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

(1) T.L. = 46
(2) Clay = 46' - 36'
(3) Gravel Pack = 46' - 22'
(4) Bentonite = 22' - 16'
(5) Grout = 16' - 15

BORING LOG

PROJECT NAME Crown Z (Mobile) PROJECT NUMBER 4913C31 PAGE 1 OF 1
LOGGED BY Zia A. Tamami APPROX. ELEV. — BORING NO. B-30
COORDINATES — DRILLING METHOD Rotary wash DATE STARTED 9-18-8
GWL: DEPTH — ACTUAL TIME — DATE COMPLETED 9-20-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
4"	28'				

South end of the Vacuum Pond. adj. to B-4cu

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'	18"	SP-1	organic silty clay / SAND	CL / SM	3-9-7	5-6½' The top 8" consists of: Dark-black organic silty clay, pockets of V. F. sand, roots; Natural odor, the bottom ~10" consists of F-Med dark grey sand, roots, wet, well sorted, Visually clean, Natural odor.
10'	9"	SP-2	SAND	SM	2-5-3	10-11½' Dark gray, SAND, F-MED grained, roots, Natural odor, slight phenol odor, wet, well sorted.
15'	13"	SP-3	SILTY SAND	SM	2-3-2	15-16½' Top 14" = Dark gray SAND, F-MED., Slight odor phenol odor, trace of roots, wet, well sorted. Bottom 4" = Dark gray Silty Sand, V. F. grained, no odor, organics, shell frag.
20'	18"	ST-1	CLAY	CL		DRILLER SAYS HE'S HIT SOFT MATERIAL (CLAY?) @ 18.5'
						19-21½' DARK Grey CLAY, organics, no odor, V. soft, wet, roots and shell frag.
25'	18"	ST-4	CLAY	CL	2-1-1	25'-26½' Top 6" = Dark gray-tan CLAY, no odor, plastic, moist Bottom 12" = Dark brown silty CLAY, no odor, wood frag, dry
30'						DRILLER SAYS HE HIT SAND @ 27.5'
35'						SET CASING @ 28.0'
40'						① T.D. = 40' ② Screen = 40'-30' ③ Gravel Pack = 40'-27.5' ④ Bentonite = 28.5'-25' ⑤ Grout = 25' → LS

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

1st attempt to drill B-31 (between B-4cu & Pond's dike) failed. B-31 caved in & caused lost circulation, moved out 7' due west & try again.

BORING LOG

PROJECT NAME Crown Z. PROJECT NUMBER 4913C71 PAGE 1 OF 1
LOGGED BY Zia Tommami APPROX. ELEV. — BORING NO. B-31
COORDINATES — DRILLING METHOD R. Wash DATE STARTED 9-17-85
GWL: DEPTH — ACTUAL TIME _____ DATE COMPLETED 9-20-85

10" borehole w/ 6" casing

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	29'				

LOCATION: East of B-9 East of the ditch

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
5'						0-12', driller says he's in organic clay from surface down to ~12'.
10'			organic silty clay/sand	CL/SM		
15'	18"	SP-1			4-5-4	12-13½ the upper 8", dark silty clay, interbedded w/ V.F. Sand, trace of natural organics; the bottom 12", gray-brown F.-med. Sand, wet, slight odor.
20'	18"	SP-2	Sand/silty clay	SM/CL	WOH-1-1	18-19½' the upper 6", gray F.-med sand, wet; the bottom 12", dark-brown silty clay (N. organics), pockets of V.F. Sand, clay is plastic, dry, natural odor.
	24"	ST-1	" "	SM/CL	—	20-22' Dark brown silty clay, trace of F.-Med sand
25'	18"	SP-3	Silty Clay	CL	2-1-1	26-27½ Dark brown silty clay, no odor, pockets of V.F. sand, dry, trace of natural organics, the bottom ~½", V.F. light gray sand.
30'	24" -26	ST-2	silty clay/SM	CL/SM	—	28-30' Dark brown silty clay, no odor, trace of sand, bottom 6-8" white V.F. sand, trace of silt, visually clean.
35'						WHEN WASHING OUT BOREHOLE, CLAY W/ CREOSOTE IN MIXTURE
40'						

NOTE

TRACE	0-5 %
LITTLE	5-12 %
SOME	12-30 %
—Y	30-45 %
AND	45-55 %

* drilled down to 28', pushed shelby. (ST-2)
ST-1 & ST-2 were kept for Geotech tests.
① T.D. = 38.5'
② Silt: 28.5-38.5'
③ Gravel: 38.5-39'
④ Sand: 39'-39.5'
⑤ Silt: 39.5'-40' → LS

BORING LOG

PROJECT NAME CROWN BELLERBACH | PROJECT NUMBER 4913C21 | PAGE 1 OF 1
LOGGED BY MAJ | APPROX. ELEV. | BORING NO. B-32
COORDINATES | DRILLING METHOD P. WASH | DATE STARTED 9-17-85
GWL : DEPTH | ACTUAL TIME | DATE COMPLETED 9-

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	27'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0						
5				CL		@ ~6.5' HIT CLAY SATURATED w/CREOSOTE NATURAL ORGANICS w/shell frag + roots
10				SM		DRILLER SAYS HE HIT SAND @ 8.0'
15						
20'						
25'	20"	ST-1		CL		DRILLER SAYS HE HIT CLAY @ ~23' 23'-25' (ST-1) = Dark grey, silty CLAY, no odor, shell frag. Plastic, wet.
30		SP-1		SM	25-14-15	DRILLER SAYS HE'S PENETRATED THRU SAND @ 28.0' SOFT SAND FIRST, THEN HARD SAND AT SP-1 (28'-29½') TOP 8" = Dark brown-tan SAND, f-med. wet, soft, high phenol odor,
35	10"	SP-2				9-20-85 BOTTOM 10" = White, SAND, hard, wet, SP-2 = TOP 6" NOT RECOVERED odor, f-med. grained BOTTOM 10" WHITE SAND, med. grain, wet, no odor, no organics
40						① T.D. = 40' ② Screen = 30'-40' ③ Gravel Pack = 40'-27' ④ Bentonite = 27'-21' ⑤ Grout =

NOTE

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

* ST-1 was shipped for geotechnical analysis
Note: @ ~2.0' hit log & have to push casing down to ~3.5' due-mostly

BORING LOG

PROJECT NAME CROWN ZELLERBACH PROJECT NUMBER 4913C2-1 PAGE 1 OF 1
LOGGED BY MAT APPROX. ELEV. _____ BORING NO. B-37
COORDINATES _____ DRILLING METHOD _____ DATE STARTED 9-16-85
GWL : DEPTH _____ ACTUAL TIME _____ DATE COMPLETED 9-30-85

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
10"	24'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0						NO log - drilled + set casing Monday by TET Visible creosote contamination - possibly pure product TET SET CASING MONDAY 9-16-85 DRILLER SAYS WASH OUT HOLE; DRILL TO 37' & SET WELL
5						
10						
15						
20						
25						
30						
35						
40						

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

① T.D. = 37'
② Screen Interval = 37'-27'
③ 20/40 Gravel Pack Interval = 37'-26'
④ Bentonite Interval = 26'-23'
⑤ Grout Interval = 23'-0'

FROM TOC → TD = 40'9"

BORING LOG

PROJECT NAME CROWN ZELLERBACH PROJECT NUMBER 4913C21 PAGE 1 OF 1
LOGGED BY MAS APPROX. ELEV. BORING NO. B-34
COORDINATES DRILLING METHOD DATE STARTED 9-16-85
GWL : DEPTH ACTUAL TIME DATE COMPLETED 1-22-86

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
6"	27.5'				

DEPTH	SAMPLER RECOVERY	SAMPLE NO. AND TYPE	STRATA LOG	U.S.C.S. SYMBOL	MEASURED CONSISTENCY (TSF)	DESCRIPTION
0						NO log - drilled & set casing on Monday
5						TET SET CASING MONDAY 9-16-85
10						
15						DRILLER SAYS HE HIT SAND @ 37'
20						
25						WASH OUT HOLE & DRILL TO 45' & SET WELL
30						
35						
40						T.D.

NOTE:

TRACE	0 - 5 %
LITTLE	5 - 12 %
SOME	12 - 30 %
—Y	30 - 45 %
AND	45 - 55 %

(1) T.D. = 40'
(2) Screen Interval = 40' - 30'
(3) 20/40 Gravel Pack Interval = 40' - 27.5'
(4) Bentonite Interval = 27.5' - 24.5'
(5) Grout Interval =

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well B-35 Project/No. Crown Zellerbach / L0913C23 Page 1 of 2

Site Location Mobile, AL Drilling Started 1/28/86 Drilling Completed 1/29/86

Total Depth Drilled 41.5 (feet)

Hole Diameter 8" → 0'-27' 4" → 27'-T.D. (inches) Type of Sample/ Coring Device Shelby tube - samples taken at Split spoon - every 5'

Length and Diameter of Coring Device Shelby length = 24" diameter = 3" Split spoon 18" x 2" Sampling Interval 5 feet

Drilling Fluid Used drilling mud Drilling Method Rotary wash

Drilling Contractor Thompson Engineering Testing Driller Kevin Collins Helper Jim Kennedy

Prepared By Maria Judice Hammer Weight 140 Hammer Drop 30 inches

Type of sample / penetration/recovery (feet)

NA = not applicable

Type of sample	Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
SP	5	6.5	< 1	1	trace of wood frags
P	10	11.5	1	3-3-3	top 2" = highly contaminated w/ creosote
					bottom 10" = SAND, medium-grained, highly contaminated w/ creosote
SP	15	16.5	9"	2-5-2	SAND, medium-grained (SM) saturated w/ creosote
S	20	22	0		NO RECOVERY
	⇒20	21.5	9"	1-1-1	CLAY, (CL), brown, lot of organics,
	this sample was taken to (DISTURBED)				wood frags, highly contaminated w/
	retrieve what was lost @		20'		creosote
S	21.5	23.5	9"	NA	CLAY, (CL), brown, lot of organics, wood frags, contaminated w/ creosote
SP	23.5	25.0	1.5'	1-1-2	CLAY, plastic, organics, some creosote
SP	25.0	26.5	1.5'	1-1-1	CLAY, plastic, brown, organics

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG (Cont.d)

Boring/Well B-35

Page 2 of 2

Prepared By Marie Gadbois

	Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 Inches	Sample/Core Description
SP	26.5'	28.0	9"	1-1-1	CLAY, soft, gray, plastic, some creosote w/ sand lenses (CL)
	29				
SP	30'	31.5'	12"	8-10-18	SAND, (SM) fine-med grained, white, dry, friable, no odor, clean
SP	35'	36.5'	18"	11-14-15	SAND (SM) same as above
SP	40	41.5'	9"	6-10-12	SAND (SM), top 5" = yellowish orange, med. sand, dry, clean bottom 4" = white, med. grained clean sand (SM)

6 perm 4 misc / unif. soil simple types

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well B-36 Project/No. Crown Zellerbach/6013CZ3 Page 1 of 2

Site Location Mobile, Alabama Drilling Started 1/29/86 Drilling Completed 1/30/86

Total Depth Drilled 40 (feet)

Hole Diameter 8" → 21' bls, 4" → T.D. (inches) Type of Sample/Coring Device Shelby tube for undisturbed samples; Split spoon for temperature & sandy

Length and Diameter of Coring Device Shelby = 24" x 3" Split spoon = 18" x 2" Sampling Interval 5 feet

Drilling Fluid Used drilling mud Drilling Method rotary drill

Drilling Contractor Thompson Engineering Testing Driller Kevin Collins Helper Tim Kennedy

Prepared By Marie Gudesic Hammer Weight 140 Hammer Drop 30 inches

Sample types

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
S 3'	5'	12"	UNDISTURBED SAMPLE	SAND (SM) gray-tan, med. grained, organics, strong phenol odor
Sp 10'	11.5'	9"	8-17-12	SAND (SM) same as above but no organics, phenol odor present
Sp 15'	16.5'	9"	4-5-6	SAND (SM) same as above but a little coarser, no odor
→ 18' cl.?				
Sp 20'	21.5'	10"	3-4-4	CLAY (CL) blue-gray, plastic, hard,
S 21.5'	23"	15"	UNDISTURBED SAMPLE	moist, slight phenol odor

GERAGHTY & MILLER, INC.
Ground-Water Consultants

penetration / sample type

SAMPLE/CORE LOG (Cont.d)

Boring/Well B-36

Prepared By Marie Judice

driller says very stiff @ 23'

	Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
SP	25	26.5	18"	3-4-4	CLAY (CL) orange, soft, moist, plastic, no odor
	+ 28' SD				
SP	30	31.5	14"	6-8-7	SAND (SM) orange, fine-med. grained, dry, friable, no odor
					(* driller says he hit sand @ 27')
SP	35	36.5	14"	5-7-7	SAND (SM) same as above orange-gray
SP	40	41.5	5"	7-4-5	SAND (SM) same as above white-grey

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well B-37 Project/No. Crown Zellerbach / 20913C.23 Page 1 of 2

Site Location Mobile, Alabama Drilling Started 1/29/86 Drilling Completed 1/30/86

Total Depth Drilled 45 (feet)

Hole Diameter 8" down to 19' bls, 19' → T.D. (inches) Type of Sample/Coring Device Shelby tube for undisturbed samples, Split spoon for disturbed samples

Length and Diameter of Coring Device Shelby = 24" x 3" Split Spoon = 18" x 2" Sampling Interval 5 feet

Drilling Fluid Used drilling mud Drilling Method rotary wash

Drilling Contractor Thompson Engineering Testing Driller Kevin Collins Helper Jim Knotts

Prepared By Marie Gudici Hammer Weight 140 Hammer Drop 30 inches

Sample type

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
AUGER 0	3	← AUGER →		SAND, light tan, med. grained, dry
5	6.5	14"	2-6-6	SAND, brown, moist, organics, with frags., no odor
SP 10	11.5	9"	3-2-1	same as above
SP 15	16.5	15"	1-1-1	SAND, same = top 2" bottom 13" = CLAY, brown, organic, no odor
S 16.5	18.5	18"	UNDISTURBED SAMPLE	SAND, (SM) silty sand grading to a med-coarse sand
7 SP 20	21.5	15"	4-6-6	SAND, same, this is as augered b/c hole is collapsing bottom 3" = CLAY, blue-grey, plastic clean
4 S 21.5	23.0	18"	UNDISTURBED SAMPLE	CLAY, fat, blue-grey, firm, plastic (* saved this sample for geotech. analysis)

GERAGHTY & MILLER, INC.
Ground-Water Consultants

SAMPLE/CORE LOG (Cont.d)

Boring/Well B-37

Prepared By Marie Gruber

Sample Type	Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
SP	25'	26.5'	14"	3-4-5	SAND (SM), orange, med-grained, clean
					bottom 10" = CLAY (CL) soft, moist,
					blue-gray, plastic, clean
SP	30'	31.5'	15"	4-7-8	SAND (SM) orange, fine-med. grained,
					moist, clean, pockets of blue soft clay
SP	35'	36.5'	15"	8-11-10	CLAY (CL) gray-blue, plastic, moist,
					soft, clean
					bottom 11" = SAND (SM) white, med
					grained, moist, clean
SP	40'	41.5'	12"	9-11-14	SAND, (SM) white, same as above
SP	45'	46.5'	6"	14-12-14	SAND (SM) same as above

KEN E. DAVIS ASSOCIATES

BORING LOG

SHEET 1 OF 1

SITE Crown Zellerbach Corp PROJECT NO. 20-699 HOLE NO. B-39 GROUND EL. 45'

STATE ALABAMA COUNTY MOBILE LOCATION ≈ 70' EAST OF SE CORNER OF POND T.D. 32

WELL COMPLETED NO PLUGGED YES LOGGED BY WHJ/DMD START 3/11/86

MATERIAL — SCREENED INTERVAL — FINISH 3/12/86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	SAMPLE DESCRIPTION	COMMENTS
	A		fill MATERIAL (SAND & CLAY)	
	ST		GRAY Silty Sand; ORANGE STREAKS	POOR RECOVERY
	A		PEAT	
10	ST			SULPHUR ODOR
	A		FINE GRAINED, SUBANGULAR TO SUBROUNDED QUARTZ SAND. CONTAINS PLANT AND WOOD FRAGMENTS	TEMPORARY CASING TO 13'
	ST			Sulphur ODOR
	A			
	SS			
20	ST		GRAY CLAY, STIFF, WITH SAND FILLED POCKETS OR BURROWS. PEATY CLAY AT CONTACT WITH SAND	SULPHUR ODOR
	A			TEMPORARY CASING TO 22'
	ST			NO CONTAMINATION
	A			
30	ST		LIGHT GRAY TO WHITE FINED GRAINED QUARTZ SAND. MIXED SAND AND CLAY AT 31 FOOT DEPTH.	WEAK CONTAMINANT ODOR
		T.D. 32'		
40				
50				
60				

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

- PEAT
- SAND FILLED POCKETS OR BURROWS
- PLANT & WOOD FRAGMENTS
- DISTINCT CONTACT
- INDISTINCT CONTACT

LEGEND

CLAY, FILL, SAND, SILT

KEI KEN E. DAVIS ASSOCIATES

BORING LOG

SHEET ___ OF ___

SITE Crown-Zellerbach Corp. PROJECT NO. 20-699 HOLE NO. B-40 GROUND EL. 45'

STATE Alabama COUNTY Mobile LOCATION 44' South of tank ST.D. 34'

WELL COMPLETED No PLUGGED Yes LOGGED BY WHJ START 3/11/86

MATERIAL ___ SCREENED INTERVAL ___ FINISH 3/11/86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	SAMPLE DESCRIPTION	COMMENTS
	A		Fill material	
	ST		Gray-Tan quartz sand w/red-tan clay pockets	-weak contaminant odor
	A		peat with a high clay content	-water at 7'
10	ST			-no odor
	A			
	ST		Medium grained quartz sand. Angular to subrounded, moderate sorting. rootlets in upper interval	-Oily sheen in sand -push casing to 14'
	A			
	W			
20	NR			
	SS			
	ST		Dark gray-green clay, sand filled burrows in upper interval	-weak contaminant od oily sheen in sand por.
	A		light grey near 30' depth	
30	ST			
	ST		light gray to white, fine to medium grained subangular quartz sand, micaceous	-weak contaminant odor
			T.D. 34'	
40				
50				
60				

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

- Peat
- Rootlets
- Sand pockets (Burrows)
- Distinct contact
- Indistinct contact

LEGEND

CLAY, FILL, SAND, SILT

KEN E. DAVIS ASSOCIATES
MOBILE, ALA. HOUSTON, TEX.

BORING LOG

SHEET 1 OF 1

SITE Crown-Zellerbach Corp PROJECT NO. 20-649 HOLE NO. B-43 GROUND EL. 4'
STATE Alabama COUNTY Mobile LOCATION 44'N11'W of Boiler House T.D. 30
WELL COMPLETED NO PLUGGED YES LOGGED BY W.H.J START 3/17/86
MATERIAL — SCREENED INTERVAL — FINISH 3/18/86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	SAMPLE DESCRIPTION	COMMENTS
	A		FILL MATERIAL (GRAY CLAY)	
	SS		PEAT WITH HIGH CLAY CONTENT	NO CONTAMINATION
	W			
10	SS		MEDIUM TO COARSE GRAINED, SUBROUNDED QUARTZ SAND. ROOTLETS	NO CONTAMINATION
	W			
	SS		CLAYEY PEAT	NO CONTAMINATION
	W		GREEN-GRAY CLAY, LAMINATED, MICACEOUS	
	SS			NO CONTAMINATION
20	W			
	SS			NO CONTAMINATION
	W		WHITE QUARTZ SAND WITH THIN CLAY BEDS; LIGHT GREEN COLOR	NO CONTAMINATION
	SS			
30				
40				
50				
60				

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

— PEAT
— ROOTLETS
— DISTINCT CONTACT
- - - — INDISTICT CONTACT

LEGEND

CLAY FILL
SAND SILT

KEN E. DAVIS ASSOCIATES

BORING LOG

SHEET 1 OF 1

SITE COXUM FELLERBACH COMP. PROJECT NO. 20-699 HOLE NO. B-44 GROUND EL. 3

STATE ALABAMA COUNTY MOBILE LOCATION ≈ 50' NORTH of B-42 T.D. 30

WELL COMPLETED NO PLUGGED YES LOGGED BY WHJ START 3/18/86

MATERIAL — SCREENED INTERVAL — FINISH 3/18/86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	SAMPLE DESCRIPTION	COMMENTS
	A		FILL MATERIAL WITH WOOD CHIPS	
	ST		GRAY CLAY	WEAK CONTAMINANT ODOR
	W		PEAT	
	ST		SILTY CLAY WITH SAND STRINGERS	OILY CONTAMINANT SHEEN
10	W		COARSE GRAINED QUARTZ SAND	
	SS		GRAY CLAY, PEATY MATERIAL AND SAND STRINGERS.	NO CONTAMINATION
	W			
	SS			NO CONTAMINATION
20	W			
	SS			NO CONTAMINATION
	A			
	SS		WHITE, FINE TO MEDIUM GRAINED SAND	NO CONTAMINATION
30		T.D. 30'		
40				
50				
60				

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

— PEAT
□□ — WOOD CHIPS AND FRAGMENTS
— ROOTLETS

LEGEND

CLAY
FILL
SAND
SILT

KEI — KEN E. DAVIS ASSOCIATES — MOBILE, AL — HOUSTON, TX

BORING LOG

SHEET 1 OF 1

SITE Crown Zellerbach Corp. PROJECT NO. 20-699 HOLE NO. B-45 GROUND EL. A

STATE Alabama COUNTY Mobile LOCATION 255' S.10°E of Treating Bldg. T.D. 30

WELL COMPLETED NO PLUGGED Yes LOGGED BY W.H.J START 3/12/86

MATERIAL — SCREENED INTERVAL — FINISH —

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	SAMPLE DESCRIPTION	COMMENTS
	A		FILL MATERIAL ; SAND AND CLAY	
	ST		MEDIUM GRAINED SAND GRAY - TAN MOTTELING	WEAK CONTAMINANT ODOR
	A			
10	ST			NO CONTAMINATION
	A		PEAT	
	ST			CONTAMINATION ODOR IN F
	W		TAN, FINE TO MEDIUM GRAINED QUARTZ SAND. ROOTLETS BENEATH PEAT INTERVAL	SULPHUR ODOR IN SAND
20	SS			
	W			NO CONTAMINATION
	ST		WHITE TO LIGHT GRAY CLAY ; SANDY WITH ROOTLETS	
	W			
30	SS		WHITE TO LIGHT GRAY, FINE GRAINED SAND	NO CONTAMINATION
			T.D. 30'	
40				
50				
60				

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

— PEAT
— ROOTLETS
——— — DISTINCT CONTACT
- - - - — INDISTINCT CONTACT

LEGEND

CLAY
FILL
SAND
SILT

KEN E. DAVIS

BORING LOG

SHEET ___ OF ___

SITE Crown - Zellerbach PROJECT NO. 20-705 HOLE NO. B-46 GROUND EL. 4.

STATE Alabama COUNTY Mobile LOCATION _____ T.D. 2

WELL COMPLETED No PLUGGED Yes LOGGED BY W.H.T START 6-9-

MATERIAL _____ SCREENED INTERVAL _____ FINISH

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	U.S.C.S.	TONS/FT²	SAMPLE DESCRIPTION	COMMENTS
	ST				fill material; orange/gray mottled sandy clay mixture about 1 foot	- water at 2'
	ST				wood chips and bark mixture	- no contamination
	ST				peat, wood chips between 4-6'	- visible contamination
	ST					
10	A				very soft below 10', shelby tubes advanced with 7" auger to 25' drilling to 25' 3" of sandy clay recovered from 23-25'	
	ST					
	ST					
20						
	ST				soft sandy clay, light gray above	
	ST				gray sand at base of shelby tube	- geotech. sample
					T.D. 27'	
30						
40						
50						
60						

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

-CLAY BALLS
-PEA GRAVEL

LEGEND

CLAY FILL
SAND SILT

KEJ KEN E. DAVIS ASSOCIATES MATON ROUGE LA HOUSTON TX

BORING LOG

SHEET ___ OF ___

SITE Crown-Zellerbach Corp. PROJECT NO. 20-705 HOLE NO. B-47 GROUND EL. 2 +

STATE Alabama PARISH Mobile LOCATION SW end of Aeration Pit I.D. J

WELL COMPLETED No PLUGGED Yes LOGGED BY WHT START 5-7-8

MATERIAL ___ SCREENED INTERVAL ___ FINISH 5-7-8

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	SAMPLE DESCRIPTION	COMMENTS
	A		Silt - sand, gravel, wood	
	ST		peat	
	ST		Gray brown silty clay	contaminated, oily
	A		clayey peat / peaty clay	
10	A		wood chips & logs 4-6"	
	A		poor returns. sliding tube advanced under the weight of the string	
	ST			
20	ST			
30	ST	Gravel	Gray brown silty clay fine grained white sand	contaminated odor
40				
50				
60				

EXPLANATIONS

A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

SHELLS
FE GRANULES
CALCAREOUS NODS.
COLOR CHANGE OR GRADATIONAL LITHOLOGIC CHANGE

LEGEND

CLAY
FILL
SAND
SILT

LSE — BATON ROUGE LA HOUSTON TX

BORING LOG

SHEET ___ OF ___

SITE Crown-Pellerbach PROJECT NO. 20-705 HOLE NO. B-48 GROUND EL. +5

STATE Alabama PARISH Mobile LOCATION 140'-east of 8" line, 140'-south of Aeration pond T.D. 4

WELL COMPLETED Yes PLUGGED No LOGGED BY C.W.H.J. START 5-2

MATERIAL PVC SCREENED INTERVAL 38-43 FINISH 5-8-86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	USCS	Tons/ft²	SAMPLE DESCRIPTION	COMMENTS
	A				fill material - road gravel	
	A				- wood fibers	- no contamination
10	ST		C		- 6" of gray brown clay	
	A		O		- peat	- no contamination
	A					
20			CL		- no return in shelby tube - very soft gray brown clay on auger	
	ST		O		- peat	- no contamination
	ST					
30			C		- stiff gray clay	
1.5'	ST	Control	SC	0.25	- stiff gray clayey sand	
dense	ST		CL		- stiff gray clay	
.5'	ST		CS		- stiff gray sandy clay	
dense	ST		S	O	- fine white sand coarsening downward	- 4" Temp clay casing to 34
1'	ST		Cm	0.25	- 4" of gray tan silty clay	- no contamination
recov	SS		S	O	- coarse sand	
40	SS				- medium fine sand micaceous	- no contamination
up		T.D. 42'				
	TD 46'					
50						
60						

EXPLANATIONS

A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

SHELLS
FE GRANULES
CALCAREOUS NODS.
COLOR CHANGE OR GRADATIONAL LITHOLOGIC CHANGE

LEGEND

CLAY
FILL
SAND
SILT

KEI KEN E. DAVIS ASSOCIATES

BORING LOG

SHEET ___ OF ___

SITE Crown-Zellerbach Corp. PROJECT NO. 20-705 HOLE NO. B-49 GROUND EL. ? MSL

STATE Alabama COUNTY Mobile LOCATION 35' west of 8" line (new road) T.D. 34'

WELL COMPLETED No PLUGGED Yes LOGGED BY W.H.J. START 5-7-86

MATERIAL ——— SCREENED INTERVAL ——— FINISH 5-7-86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	U.S.C.S.	TONS/FT.^{2}	SAMPLE DESCRIPTION	COMMENTS
	A				fill material. Sand, gravel, shells,	
	A				Dark fill sand, wood chips	
	ST					
10			C		gray brown clay	-visible contamination
	ST				clayey peat	
	ST				2" of gray clay at 26'	-visible contamination
20	ST				Poor returns; shelby tubes advanced under a variable [illegible]	
	ST					
	ST					
30			CH		gray silty clay	
	ST	Gravel	CS		gray sandy clay	
	ST	Gravel	S	0	white fine grained sand	-no odor
		T.D. 34'				
40						
50						
60						

2.1.8.3

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

-CLAY BALLS
-PEA GRAVEL

LEGEND

CLAY
FILL
SAND
SILT

BORING LOG

SHEET ___ OF ___

SITE Crown-Zellerbach PROJECT NO. 20-705 HOLE NO. B-50 GROUND EL. 3+

STATE Alabama COUNTY Mobile LOCATION 50' east of B-22 T.D. 2

WELL COMPLETED No PLUGGED Yes LOGGED BY GWHJ START 5-6-86

MATERIAL — SCREENED INTERVAL — FINISH 5-6-86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	U.S.C.S.	TONS/FT.^{2}	SAMPLE DESCRIPTION	COMMENTS
	ST				coarse to medium grained subangular quartz sand. Top 4" fill material (topsoil)	- no contamination
	A					
	A		O		clayey peat	- visible contamination
	SS					
10	ST				fine to medium grained quartz sand angular to subangular	- geotech sample 8-10'
	ST		S	O	coarser grained 10 to 15 feet.	
	ST		S	O		- visible contamination
	ST		S	O		
20	SS					- split spoon hammered from 16 to 22" with 36 blows
	ST		m	.75	gray brown clay w/sand pockets	- geotech sample 22-24'
	ST		S	O	fine grained white sand	- no contamination (24-26')
30	T.D. 26'					- no contamination
40						
50						
60						

EXPLANATIONS

W - WASH
A - AUGER CUTTING
SS - SPLIT SPOON
ST - SHELBY TUBE
NR - NO RECOVERY

-CLAY BALLS
-PEA GRAVEL

LEGEND

CLAY
FILL
SAND
SILT

KEN E. DAVIS ASSOCIATES

BORING LOG

SHEET ___ OF ___

SITE Crown-Zellerbach PROJECT NO. 20-705 HOLE NO. B-51 GROUND EL. 4'

STATE Alabama COUNTY Mobile LOCATION 150' north of B-50 T.D. 26'

WELL COMPLETED No PLUGGED Yes LOGGED BY WHT START 5-6-

MATERIAL ___ SCREENED INTERVAL ___ FINISH 5-6-8

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	U.S.C.S.	TONS/FT.^{2}	SAMPLE DESCRIPTION	COMMENTS
	ST				fill material- gray/tan mottled sandy clay with shells.	
	ST		ms	1.0	dark gray brown sandy clay	- no contamination
O.K.	ST		O		peat	
	ST		S	0	fine to medium grained sand	
10	ST		S	0	coarser between 10 and 15'	- no contamination
	SS		S	0		
	ST		S	0		
	ST		S	0		
	ST		S	0		
	NR					
20	ST				dark brown silty clay, peaty clay below 22'. Soft.	- no contamination
O.K.	ST		CO			
	SS		S	3	fine grained white sand	
30						
40						
50						
60						

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

-CLAY BALLS
-PEA GRAVEL

LEGEND

CLAY
FILL
SAND
SILT

KEJ ALAN E. DAVIS

BORING LOG

SHEET ___ OF ___

SITE Crown Pella-Lach PROJECT NO. 20-705 HOLE NO. B-52 GROUND EL. 3'

STATE Alabama COUNTY Mobile LOCATION warehouse parking lot T.D. _

WELL COMPLETED No PLUGGED Yes LOGGED BY WHT START 5-

MATERIAL _____ SCREENED INTERVAL _____ FINISH 5-6-

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	U.S.C.S.	TONS/FT.^{2}	SAMPLE DESCRIPTION	COMMENTS
	ST				fill material, orange sand	
	W				Log at 6'	- no contaminants
			CO		Peaty clay	
10	SS		SP		dark brown peaty sand	- no contaminants
	SS					
	ST				peaty clay	- no contaminants
	ST		CH	0	gray silty clay	- no contaminants
	ST			0	Peat [illegible] sdy-cly-cvg.	- no contaminants
20	ST		SP		gray fine to med grained sand, [illegible]	- no contaminants
	ST		CL	1.8	very clay	
	ST			0	white fine grained [illegible]	- no contaminants
30						
40						
50						
60						

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

-CLAY BALLS
-PEA GRAVEL
-woodchips

LEGEND

CLAY
FILL
SAND
SILT
PEAT

KEI KEN E. DAVIS

BORING LOG

SHEET ___ OF ___

SITE Crown-Zellerbach PROJECT NO. 20-705 HOLE NO. B-53 GROUND EL. 4.4'

STATE Alabama COUNTY Mobile LOCATION _____ T.D. 28

WELL COMPLETED No PLUGGED Yess LOGGED BY W.H.T. START 5-5-86

MATERIAL _____ SCREENED INTERVAL _____ FINISH 5-5-86

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	U.S.C.S.	TONS/FT^2	SAMPLE DESCRIPTION	COMMENTS
	A				fill material, clayey with shells	
	ST				fill material, woody & peaty	- slight contaminant odor
	ST				Peaty CLAY	
	A				clayey peat / peaty clay	- decay odor
	A					
10	A					
	W		Pt OL		Peaty material between 12' and 21' is very soft. Shelby Tube and split spoon advanced under the weight of the drill stem.	
	?					
20	SS		SM			
Plasticity	ST		ML	1.7	gray sandy clay / clayey sand rootlets 21-21.5' fine sand	- no contamination
	ST					
	SS		SP-SM	0.7	gray medium grained sand grading down to coarse sand with gravel size quartz and chert	- no contamination odor
30						
40						
50						
60						

EXPLANATIONS

W-WASH
A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

-⊘-⊘- =CLAY BALLS
.·.·. -PEA GRAVEL

LEGEND

CLAY FILL
SAND SILT

KEN E. DAVIS ASSOCIATES

BORING LOG

SHEET ___ OF ___

SITE: Crown-Zellerbach PROJECT NO. 20-705 HOLE NO. B-54 GROUND EL

STATE Alabama PARISH Mobile LOCATION 70' South of B19 T.D. ___

WELL COMPLETED no PLUGGED yes LOGGED BY WHT START 5-9

MATERIAL ___ SCREENED INTERVAL ___ FINISH 5-9

DEPTH (FEET)	SAMPLE TYPE	SOIL COLUMN	SAMPLE DESCRIPTION	COMMENTS
	A		fill material - road stone and gravel ± 1'	
	A		- wood fibers ± 2'	
	WOS		gray clay ± 1'	
	ST		soft clayey peat (c) (Pt)	contaminant oo
	ST			
10			- peaty clay, 9-10'	
	ST			- odor
			- firm peat 16-18'	
20	ST			
	ST			
	ST			
30			- 8" gray sandy clay (CS) CL	- odor
			- 6" white sand grading upward to clay (S)	
			T.D. 30	
40				
50				
60				

EXPLANATIONS

A-AUGER CUTTING
SS-SPLIT SPOON
ST-SHELBY TUBE
NR-NO RECOVERY

SHELLS
FE, GRANULES
CALCAREOUS NODS.
COLOR CHANGE OR GRADATIONAL LITHOLOGIC CHANGE

LEGEND

CLAY
FIL
SAND
SILT

BORING/MONITORING WELL LOG

Boring No. B-K55
Sheet 2 of 3

Project

Client SAME

File No. 88-2011
Date 5-13-88
By J. Chil

Field Data

Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
	45		50b/9" N.C.	Very dense gray SAND (SP), w/creosote
	50		50b/10" N.C.	--same, w/slight odor
	55		(16,24,25) 49b/f	Dense white & tan Coarse SAND (SP) w/gravel & creosote odor
	60		(9,22,26) 48b/f	--same; w/creosote visible & tan clay lenses
	65		(13,19,28) 47b/f	--w/slight creosote odor
	70		50b/f N.C. (24,26)	Very dense orange-tan Coarse SAND (SP), w/gravel & no odor
	75			
	80		50b/8" N.C. (24,26/2")	--same

(Continued)

Standard Penetration Test (140 lb Hammer • 30in Fall)

Undisturbed Sample 3 inch Dia Shelby Tube

Nc Recovery

N.C. = No cull

Strata Boundaries Inferred & May Not Be Exact

SOIL TESTING ENGINEERS, INC.

STEI 24

BORING/MONITORING WELL LOG

Boring No. B-A55
Sheet 3 of 3

Project SAME

File No. 88-2011
Date 5-13-88
By J. Ch

Client

Field Data				
Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Tonvane(T) (tons/sq ft.)	
	85			
	90		50b/9" N.C. (21,29/3")	Very dense orange-tan Coarse SAND (SP), No creosote odor
	95		50b/10" (18,32/4")	Dense gray CLAYEY SAND (SC), w/gray clay lenses 1" to 2" thick
	100		50b/10" N.C. (26,24/4")	Very dense gray SAND (SP)
	105		50b/6" N.C.	--coarse, w/gray clay lenses
	110		(15,35) 50b/f	--same
	115			Boring Terminated @ 110'
	120			

Standard Penetration Test
140 lb Hammer • 30 in Fall

Undisturbed Sample
3 inch Dia Shelby Tube

No Recovery

Strata Boundaries Inferred & May Not Be Exact

N.C. = No cull

STEI 24

SOIL TESTING ENGINEERS, INC.

BORING/MONITORING WELL LOG

Boring No. B-4 (S) Sheet 1 of 3

Project: Groundwater Monitoring Wells, Mobile, Alabama

Client: CFI, Gulfport, Mississippi

File No. 88-2011

Date 5-5-88

By J. Childress

Field Data

Boring Advance Method: Wash 0' to 110'

Drill Rig: Mayhew 200 Tractor

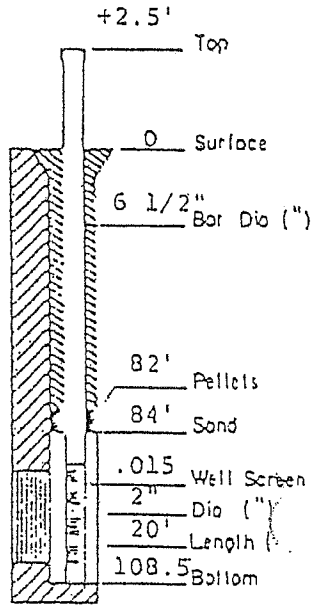
Driller: C. Givens

Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
5		(3,6,7) 13b/f	Brown & Tan SILTY SAND (SM) FILL
10		(1,3,12) 15b/f	Firm brown organic CLAY (OH), w/ creosote pine bark & other organics
15		W.O.H.	--very soft black ORGANIC CLAY (OH), w/creosote
20		W.O.R.	--same
25		W.O.R.	--gray CLAY (CH), w/creosote odor
30		W.O.R.	--organic CLAY (OH), w/creosote odor
35		(20,21,24) 45b/f	Dense white SAND (SP), w/no creosote odor
40		(8,12,10) 22b/f	--firm gray, with creosote odor

(continued)

MONITORING WELL DATA

Well No B-4



-23.5 + 7.3 = -16.2

-32 + 7.3 = -24.7

Standard Penetration Test (140 lb. Hammer • 30cm. Fall)

Undisturbed Sample 3 inch Dia Shelby Tube

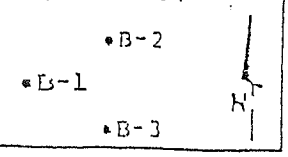
No Recovery

Strata Boundaries Inferred & May Not Be Exact

W.O.R. = Split Spoon sank under weight of drill rod

W.O.H. = Split Spoon sank 18" under weight of rod & hammer

WELL LAYOUT



SOIL TESTING ENGINEERS, INC

BORING/MONITORING WELL LOG

Boring No. B-56
Sheet 1 of 3

Project Groundwater Monitoring Wells
Mobile, Alabama

Client CFI, Gulfport, Mississippi

File No. 88-2011
Date 5-4-88
By J. Chi.

Field Data

Boring Advance Method:
Wash 0' to 105'

Drill Rig: Mayhew 200 Tractor
Driller: C. Givens

Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Tonsom (T) (tons/sq ft.)	
	5			Tan Silty SAND (SM) FILL
	10		(2,4,2) 6b/f	Pine Bark
	15		W.O.R.	Very soft gray-black ORGANIC CLAY (OH), w/creosote
	20		W.O.R.	--same
	25		W.O.R.	--same
	30		W.O.R.	--same
	35		W.O.R.	Very soft grey SANDY CLAY (CL), w/ slight creosote odor
	40		(7,18,16) 34b/f	Dense gray CLAYEY SAND (SC), w/ creosote odor

(continued)

Standard Penetration Test 140 lb. Hammer + 30 in. Fall

Undisturbed Sample 3 inch Dia Shelby Tube

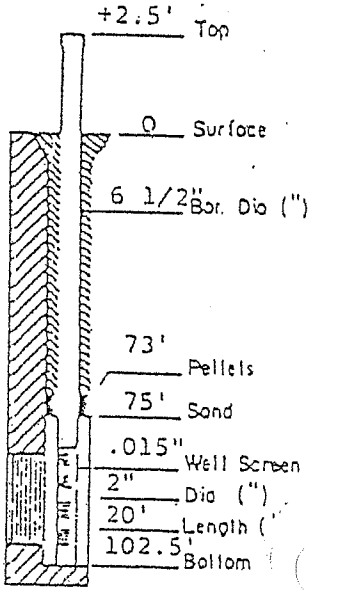
Not Recovery

Strait Boundaries Inferred & May Not Be Exact

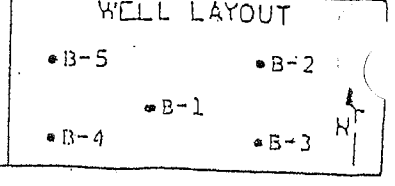
W.O.R. = Split Spoon sank 18" under weight of drilling rod

MONITORING WELL DATA

Well No B-5



WELL LAYOUT



SOIL TESTING ENGINEERS, INC.

STEI 24

BORING/MONITORING WELL LOG

Boring No. B-56
Sheet 2 of 3

Project

Client SAME

File No. 88-2011
Date 5-8-[illegible]
By J. Chi[illegible]e

Field Data				
Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
	45			* Surge of liquid creosote suddenly appeared in drilling pit @ 48.5' to 50' depth
	50		(11,16,20) 36b/f	Dense tan Sand (SP), w/creosote odor
	55		(6,6,9) 15b/f	Firm orange CLAYEY SAND (SC), w/ gravel & creosote odor
	60		(11,11,10) 21b/f	--, 2/white coarse Sand in alternating stringes; visible creosote in white sand
	65		(15,21,25) 46b/f	Dense tan SAND (SP) w/creosote & gravel
	70		(22,28,17) 45b/f	--w/creosote odor & film
	75		(5,4,13) 17b/f	--firm, same
	80		(6,27,25) 52b/f	Very dense tan COARSE SAND(SP), w/ gravel & creosote

(continued)

Standard Penetration Test
140 lb Hammer • 30in Fall

Undisturbed Sample
3 inch Dia Shelby Tube

No Recovery

Strata Boundaries Inferred & May Not Be Exact

SOIL TESTING ENGINEERS, INC.

STE 124

BORING/MONITORING WELL LOG

Boring No. B-56
Sheet 3 of 3

Project

Client SAME

File No. 88-2011
Date 5-9-88
By J. Chil

Field Data

Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
	85		50b/8"	Very dense tan coarse SAND (SP), w/ creosote odor
	90		50b/6"	--same, w/trace of orange clay @ 90'; faint creosote odor
	95		(6,30,45) 75b/f	--w/large gravel; faint creosote odor
	100		50b/f N.C. (14,36)	Very dense gray SAND (SP), w/3" Sandy clay lenses; No creosote odor
	105		(7,12,12) 24b/f	Very stiff gray-brown CLAY (CH); No creosote odor
	110			Boring Terminated @ 105'
	115			
	120			

Standard Penetration Test
140 lb Hammer - 30 in Fall

Undisturbed Sample
3 inch Dia Shelby Tube

No Recovery

Strata Boundaries Inferred & May Not Be Exact

N.C. = No cull

STEI 24

SOIL TESTING ENGINEERS, INC.

BORING/MONITORING WELL LOG

Boring No. B-2, 57
Sheet 1 of 3

Project Groundwater Monitoring Wells
Mobile, Alabama

Client CFI, Gulfport, Mississippi

File No. 88-20[illegible]
Date 4-28
By J. Childre

Boring Advance Method: Wash 0' to 100'

Drill Rig: Mayhew 200 Tractor

Driller: C. Givens

Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
5			CLAY (CH) Fill
10		(5,5,5) 10b/f	Loose tan SAND (SP) FILL
15		(5,0,1) lb/f	Very soft gray-white SANDY CLAY (CL), w/wood
20		W.O.H.	Very soft black ORGANIC CLAY (OH), w/visible creosote
25		W.O.R.	--w/peat & creosote
30		W.O.H.	Very soft gray SILTY CLAY (CL), w/ visible creosote
35		W.O.R	--same
40		(3,8,16) 24b/f	Dense gray SAND (SP), w/ creosote odor

(continued)

Standard Penetration Test 140 lb Hammer • 30 in Fall

Undisturbed Sample 3 inch Dia Shelby Tube

Nt Recovery

W.O.R. = Split Spoon sank under weight of rod

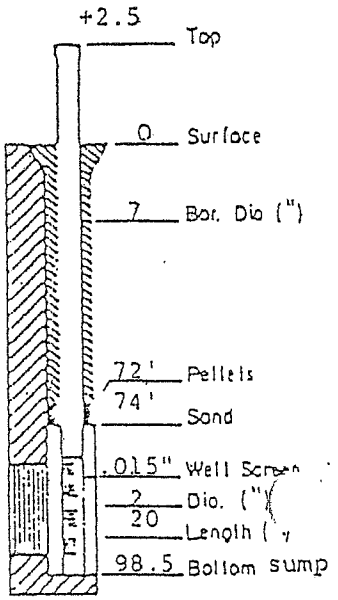
W.O.H. = Split Spoon sank under weight of rod & hammer

Strata Boundaries Inferred & May Not Be Exact

SOIL TESTING ENGINEERS, INC.

MONITORING WELL DATA

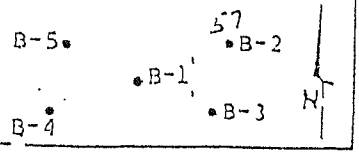
Well No B-2, 57



27.0
8.8
18.2

34.0
8.8
25.2

WELL LAYOUT



BORING/MONITORING WELL LOG

Boring No. B-2, 57

Sheet 2 of 3

Project: SAME

Client:

File No. 88-20

Date 5-10

By J. Chi

Field Data				
Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	
	45		50b/11" N.C. (10,30/5")	Dense gray SAND (SP), w/slight creosote odor
	50		(11,20,23) 43b/f	--coarser, no creosote odor
	55		(9,20,21) 41b/f	--tan
	60		(17,23,23) 46b/f	--same
	65		(7,7,7) 14b/f	--w/gravel; No odor
	70		(12,14,22) 36b/f	--dense
	75			
	80		50b/9" (14,16/3")	--very dense; more gravel

(continued)

Standard Penetration Test
140 lb Hammer - 30in Fall

Undisturbed Sample
3 inch Dia Shelby Tube

Nt Recovery

Strata Boundaries Inferred & May Not Be Exact

N.C. = No Cull

SOIL TESTING ENGINEERS, INC.

BORING/MONITORING WELL LOG

Boring No. B-2,-57

Sheet 3 of 3

Project SAME

File No. 88-20

Date 5-12-

By J. Childre

Client

Field Data

Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane(T) (tons/sq ft.)	
	85			
			50b/10"	Very dense tan SAND (SP), w/gravel; No odor
	90			
			50b/f	--same, w/1" to 2" gray Sandy CLAY lenses
	95			
			(4,6,9)15b/f	Very stiff dark brown SILTY CLAY (CL), w/organics; No creosote
	100			
				Boring Terminated @ 100'
	105			
	110			
	115			
	120			

Standard Penetration Test
140 lb Hammer - 30in Fall

Undisturbed Sample
3 inch Dia Shelby Tube

Nt Recovery

Strata Boundaries Inferred & May Not Be Exact

BORING/MONITORING WELL LOG

Boring No. B-3, 58 Sheet 1 of 1

Project: Groundwater Monitoring Wells
Mobile, Alabama

Client: CFI, Gulfport, Mississippi

File No. 88-2011
Date 4/27/
By J. Chi

Field Data

Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Torvane (T) (tons/sq ft.)	Boring Advance Method: Wash 0' to 110'
	5		(3,5,6)11b/f	Brown SILTY SAND (SM) FILL
	10		(2,1,1)2b/f	Very soft black SILTY SAND (SM), w/creosote
	15		W.O.H.	--No recovery
	20		W.O.H.	Very soft black & gray ORGANIC CLAY (OH), w/shell fragments & creosote
	25		W.O.H.	--No shell
	30		W.O.H.	
	35		(4,15,15)30b/f	Very soft gray SILTY CLAY (CL), w/creosote
	40		(13,27,46)73b/f	Very dense gray-white SAND (SP), w/creosote odor --same, w/faint odor

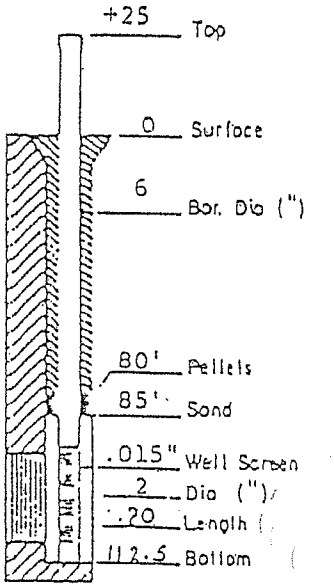
(continued)

Drill Rig: Mayhew 200 Tractor

Driller: C. Givens

MONITORING WELL DATA

Well No B-3, 58



-3
+7.8
-22.2

-35
+7.8
-27.2

Standard Penetration Test (140 lb. Hammer - 30in. Fall)

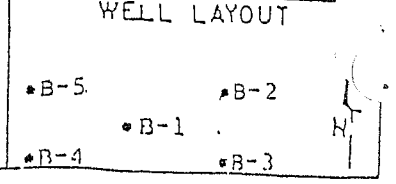
Undisturbed Sample 3 inch Dia Shelby Tube

No Recovery

W.O.H. = Split Spoon sank 18" under weight of drill rod & hammer

Strata Boundaries Inferred & May Not Be Exact

WELL LAYOUT



SOIL TESTING ENGINEERS, INC.

STEI 24

BORING/MONITORING WELL LOG

Boring No. B-3,58

Sheet 2 of 3

Project

Client SAME

File No. 88-

Date 5-5-88

By J. Childress

Field Data			
Ground Water Level	Depth (feet)	Sampling — Standard Penetration Test (blows/foot) or Penetrometer (P) Tonvane(T) (tons/sq ft.)	
	45	(7,14,19) 33b/f	Very dense gray-white SAND (SP), w/ shell debris & faint odor
	50	(14,24,27) 51b/f	--tan
	55	(14,21,47) 58b/f	--same
	60	(7,13,14) 27b/f	--firm, same
	65	(18,21,25) 46b/f	--dense, same
	70	(14,16,17) 33b/f	--No creosote odor
	75	57b/f N.C. (20,37)	--same
	80	52b/f N.C. (20,32)	--same

Standard Penetration Test 140 lb Hammer - 30in Fall

Undisturbed Sample 3 inch Dia Shelby Tube

Nt Recovery

Strata Boundaries Inferred & May Not Be Exact

(continued)

N.C. = No cull

BORING/MONITORING WELL LOG

Boring No. B-3, 58

Sheet 3 of 3

Project

Client SAME

File No. 88-2011

Date 5-6-8

By J. Chi.

Field Data

Ground Water Level	Depth (feet)	Sampling	Standard Penetration Test (blows/foot) or Penetrometer (P) Tonvane (T) (tons/sq ft.)	
	85		57b/f N.C. (17,40)	Very dense tan COARSE SAND (SP), w/ pea gravel & shell pieces; No creosote odor
	90		50b/10" N.C. (25,25/4")	--same
	95		50b/f N.C. (15,35)	--same
	100		(19,26,19) 45b/f	--same
	105		(8,9,21) 30b/f	--same
	110		50b/10" N.C. (25,25/4")	--tan & red, w/pea gravel
				Boring Terminated @ 110'
	115			
	120			

Standard Penetration Test (140 lb Hammer • 30in Fall)

Undisturbed Sample 3 inch Dia Shelby Tube

Ne Recovery

Strata Boundaries Inferred & May Not Be Exact

N.C. = No cull

WELL LAYOUT

N

SOIL TESTING ENGINEERS, INC.

STE 24

BORING NO. B-59

ne Environmental Services

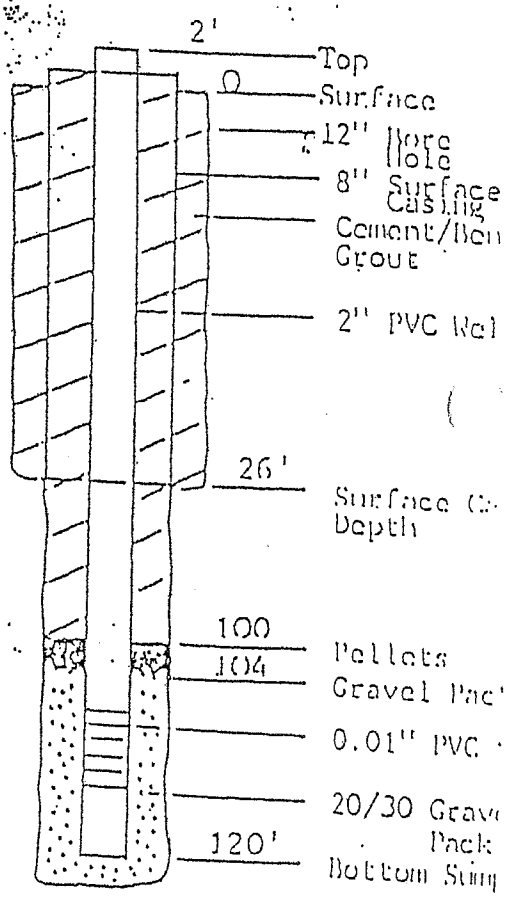
x 17700 · Pensacola, FL 32522-7700 · 800-350-5024 · 904-432-5101 · Division of LAYNE-WESTERN COMPANY, INC.

A Manley Company

CT: 78-2360 Cavenham Forest Industries

DATE: 12/20/88

SAMPLE	LITHOLOGY	MONITOR WELL DATA
	Sand, fine to medium grain, tan	
	Peat, silty clay and sand matrix, creosote stain	
	Clay, light gray, soft, organics near the top, creosote odor	
	Sand, fine to medium grain, white, creosote odor	
	Sand, fine to coarse grain, gravel, tan, white, streaks of gray clay	



PRESENTATIVE

Sheet 1 of 2

PROFESSIONAL SERVICES FOR WATER SYSTEMS

BORING NO. 39

Wayne Environmental Services
P. Box 17700, Pensacola, FL 32522-7700 • 800-356-3024 • 904-432-5101
Division of LAYNE-WESTERN COMPANY, INC
A Marley Company

PROJECT: 78-2360 Cavenham Forest Industries

DATE: 12/20/80

SAMPLE	LITHOLOGY	MONITOR WELL DATE
X	Sand, fine to medium grain, white	
X	Sand, fine to coarse grain, gravel, tan, white, streaks of yellow, pink, light gray and light blue clay	
X	Clay, pink, soft	

REPRESENTATIVE

BORING NO. B-60

Pine Environmental Services

Box 17700, Jacksonville, FL 32245-7700 (800) 950-3024 (904) 482-9101

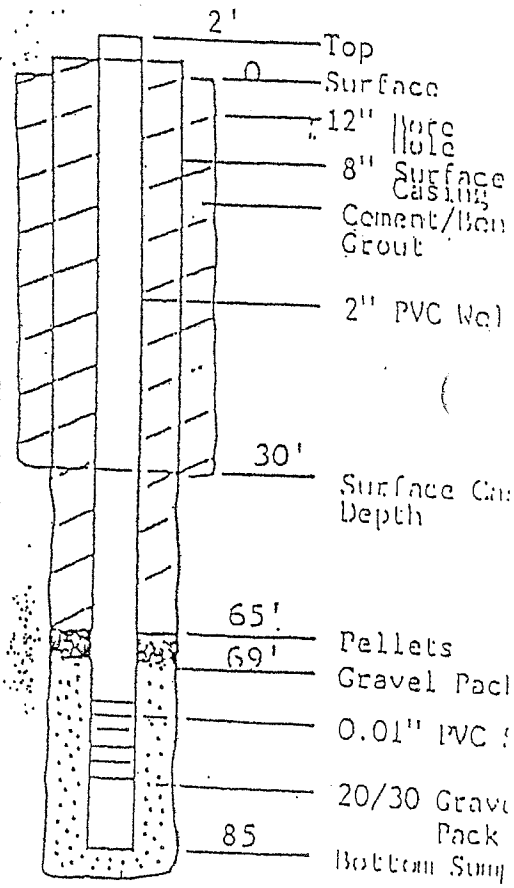
A Manley Company

CT: 78-2360 Cavenham Forest Industries

DATE: 12/19/80

SAMPLE	LITHOLOGY
	Peat, silty clay and sand matrix, creosote stain
	Clay, light gray, soft, creosote odor
	Sand, fine to medium grain, white, slight creosote odor

MONITOR WELL DATA



REPRESENTATIVE

Pine

PROFESSIONAL SERVICES FOR WATER SYSTEMS

BORING NO. B-60

Layne Environmental Services

17700 • Panhandle, FL 32422-7700 • 800-356-3024 • 904-482-5101

Division of LAYNE-WESTERN COMPANY, INC.
A Marley Company

: 78-2360 Cavenham Forest Industries

DATE: 12/19/89

SAMPLE	LITHOLOGY	MONITOR WELL DATE
X	Sand, fine to medium grain, tan	
X		
X	Clay, gray, dense, organics near the top	

RESENTATIVE

Layne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

BORING NO. B-61

Layne Environmental Services

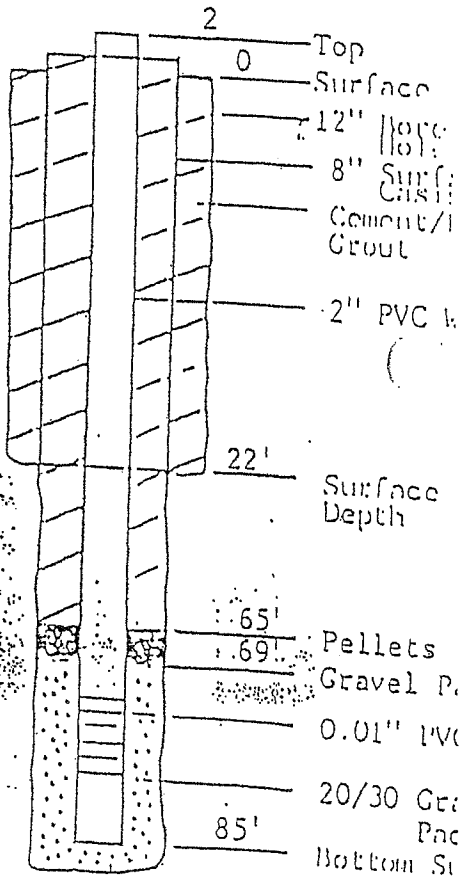
P.O. Box 17700 · Pensacola, FL 32522-7700 · 000-000-0024 · 904-432-5101

A Division of LAYNE-WESTERN COMPANY, INC.
A Mayfair Company

PROJECT: 78-2360 Cavenham Forest Industries

DATE: 12/15/88

SAMPLE	LITHOLOGY	MONITOR WELL DATA
X	Logs, refuse, silty sand, black	
X		
X	Peat, silty sand matrix, slight creosote odor	
X		
X		
X		
X		
X	Clay, light gray, soft	
X		
X	Sand, fine to medium grain, streaks of yellow, tan, and gray clay	
X		
X	Sand, fine to medium grain, white	
X		
X	Sand, fine to medium grain, gravel, tan, white, streaks of yellow, tan, pink and light gray silty clay	



REPRESENTATIVE

Layne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

Sheet 1 of 2

BORING NO. B-61

ne Environmental Services
17700 • Pensacola, FL 32522-7700 • 800-356-3024 • 904-432-5101
Division of LAYNE-WESTERN COMPANY, INC.
A Marley Company

: 78-2360, Cavenham FOrest Industries

DATE: 12/15/89

SAMPLE	LITHOLOGY	MONITOR WELL DATE
X		
X		
X	Clay, gray, dense, organics near the top	

RESENTATIVE

BORING NO. B-60

Wayne Environmental Services

Box 17700, Wilmington, NC 28403-7700 (919) 350-1027 (800) 432-6101

Division of LAYNE-WESTERN COMPANY, INC.
A Marley Company

CT: 78-2360 Cavenham Forest Industries

DATE: 12/19/80

SAMPLE	LITHOLOGY
XXXX

BORING NO. B-60

Wayne Environmental Services

17700 • Port Lincoln, FL 33522-7700 • 800-356-3024 • 904-432-5101

Division of LAYNE-WESTERN COMPANY, INC.
A Marley Company

E: 78-2360 Cavenham Forest Industries

DATE: 12/19/89

SAMPLE	LITHOLOGY	MONITOR WELL DATE
X	Sand, fine to medium grain, tan	
X		
X	Clay, gray, dense, organics near the top	

RESENTATIVE

BORING NO. 62

Wayne Environmental Services

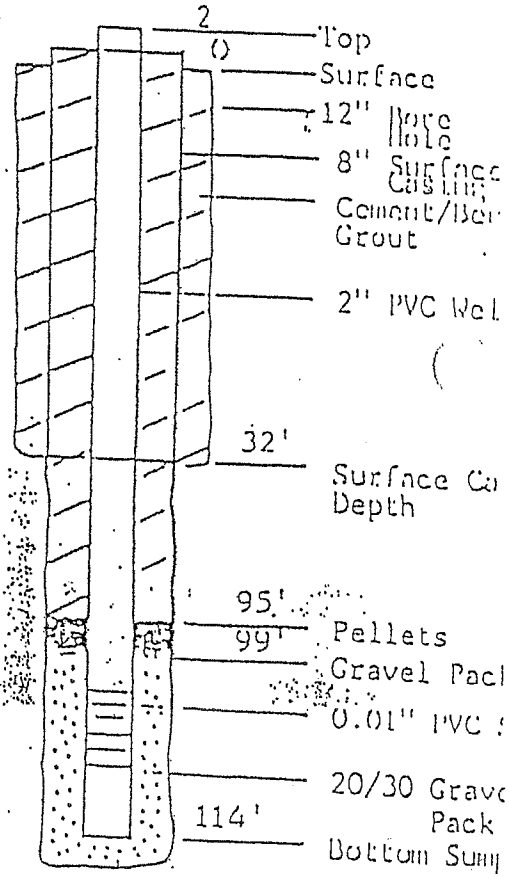
17700 • Panama City, FL 32422-7700 • 800-356-8824 • 904-482-5101

Division of LAYNE-WESTERN COMPANY, INC.
A Mafco Company

PROJECT: 78-2360 Cavenham Forest Industries

DATE: 12/13/89

LITHOLOGY	MONITOR WELL DATA
Sand, fine to medium grain, tan, shell	
Peat, silty clay and sand matrix, creosote stain	
Clay, light gray, soft, slight creosote odor	
Sand, fine to medium grain, tan, slight creosote odor	
Sand, finer to coarse grain, gravel, tan, white, streaks of yellow and gray clay	



REPRESENTATIVE Robert Gay

Wayne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

BORING NO. 62

Layne Environmental Services

Box 17700 · Pensacola, FL 32522-7700 · 800-356-3024 · 904-432-5101

Division of LAYNE-WESTERN COMPANY, INC.
A Marley Company

PROJECT: 78-2360 Cavenham Forest Industries

DATE: 12/13/89

SAMPLE	LITHOLOGY	MONITOR WELL DATE
X	Sand, fine to medium grain, tan, minor amounts of felsic and mafics	
X		
X		
X	Sand, fine to coarse grain, tan, gravel and cobbles, minor amounts of felsics and mafics, streaks of tan, yellow, gray and light blue clay	
X		
X		
X		
X		
X		
X		
X		
	Rock	

REPRESENTATIVE

Layne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

BORING NO. B-63

Layne Environmental Services

P.O. Box 17700 · Pensacola, FL 32522-7700 · 800-356-8024 · 904-432-5101

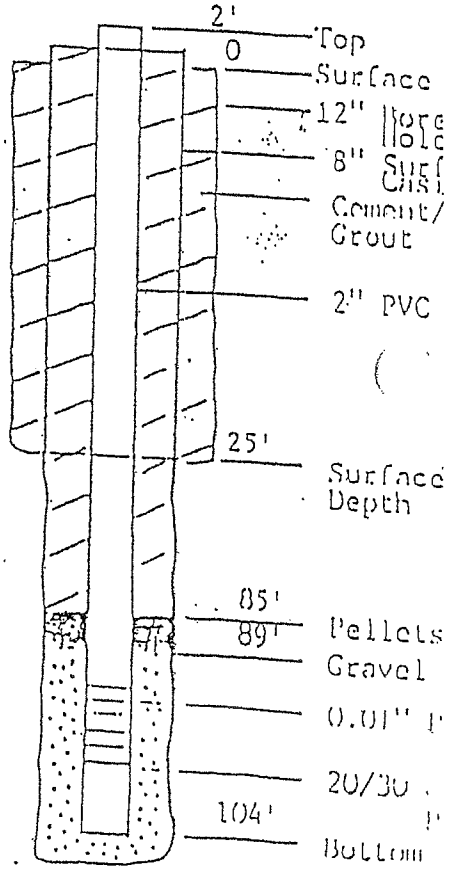
Division of LAYNE-WESTERN COMPANY, INC.
A Morrison Company

PROJECT: 78-2360 Cavenham Forest Industries

DATE: 12/10/89

SAMPLE	LITHOLOGY
X	Sand, fine to medium grain, tan
X	Peat, silty clay matrix, some sand, creosote product
X	Clay, light gray, soft, organic material near top creosote product
X	Sand, fine to medium grain, tan, gray, creosote product down to 42'
X	Sand, fine to coarse grain, gravel, white, tan, streaks of yellow clay
X	Sand, fine to medium grain, white, streaks of gray clay

MONITOR WELL DATA



REPRESENTATIVE

Layne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

Sheet 1 of

BORING NO. 63

Layne Environmental Services

P.O. Box 17700 • Pensacola, FL 32522-7700 • 800-356-0024 • 904-432-5101

Division of LAYNE-WESTERN COMPANY, INC.
A Morrison Company

PROJECT: 78-2360 Cavenham Forest Industries

DATE: 12/10/89

SAMPLE	LITHOLOGY	MONITOR WELL DATA
X		
X		
X		
	Sand, fine to coarse grain, gravel, white, tan, gray clay fragments and marks, streaks of yellow mild	
	Sand, fine to medium grain, white	
	Clay, light blue, soft	

REPRESENTATIVE

Layne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

BORING NO. B-64

Wayne Environmental Services

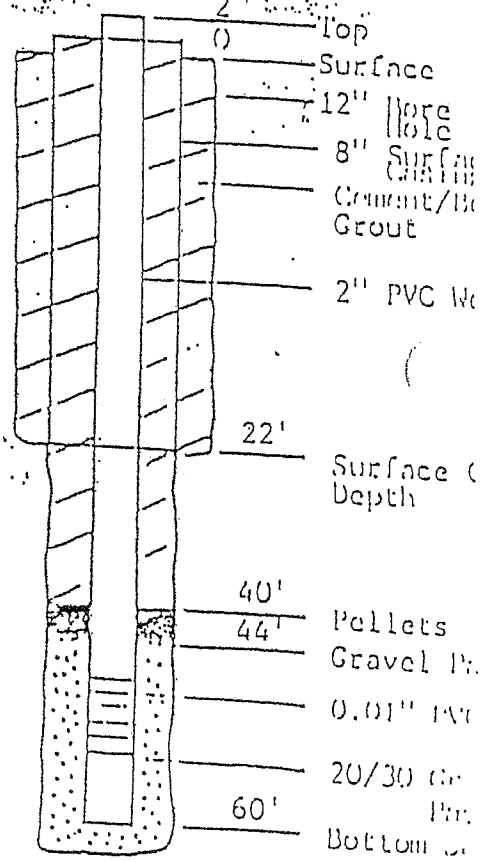
Box 17700 • Pensacola, FL 32522-7700 • 800-356-5024 • 904-432-5101

Division of WAYNE-WESTECH COMPANY, A Manley Company

JOB: 78-2360 Cavenham Forest Industries

DATE: 12/16/89

LITHOLOGY	MONITOR WELL DATA
Peat, silty clay and sand matrix, creosote stain	
Clay, light gray, soft, creosote odor	
Sand, fine to medium grain, white, slight creosote odor	
Sand, fine to coarse grain, gravel, tan, white	



REPRESENTATIVE

Wayne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

Sheet 1 of 1

BORING NO. B-65

Layne Environmental Services

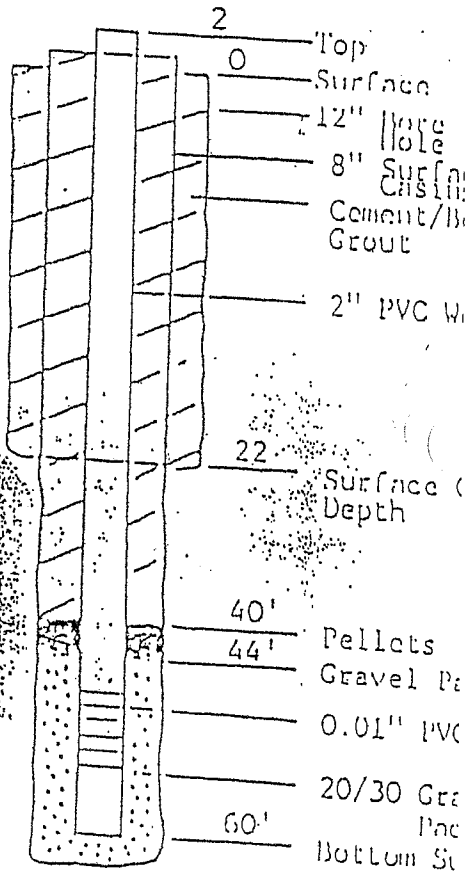
Box 17700 • Pensacola, FL 32522-7700 • 800-356-3024 • 904-432-5101

Division of LAYNE-WESTERN COMPANY, INC.
A Hanley Company

CT: 78-2360 Cavenham Forest Industries

DATE: 12/14/89

SAMPLE	LITHOLOGY	MONITOR WELL DATA
X	Logs, refuse, silty sand, black	
	Peat, silty sand matrix, slight creosote odor	
X	Clay, light gray, soft	
X	Sand, fine to medium grain, streaks of yellow, tan and gray clay	
X	Sand, fine to medium grain, white	
X	Sand, fine to coarse grain, gravel, tan, white, streaks of yellow, tan, pink and light gray silty clay	



REPRESENTATIVE

Layne

PROFESSIONAL SERVICES FOR WATER SYSTEMS

BORING NO. 66

Layne Environmental Services

Box 17700 • Pensacola, FL 32522-7700 • 800-356-3024 • 904-432-5101

Division of LAYNE-WESTERN COMPANY, INC

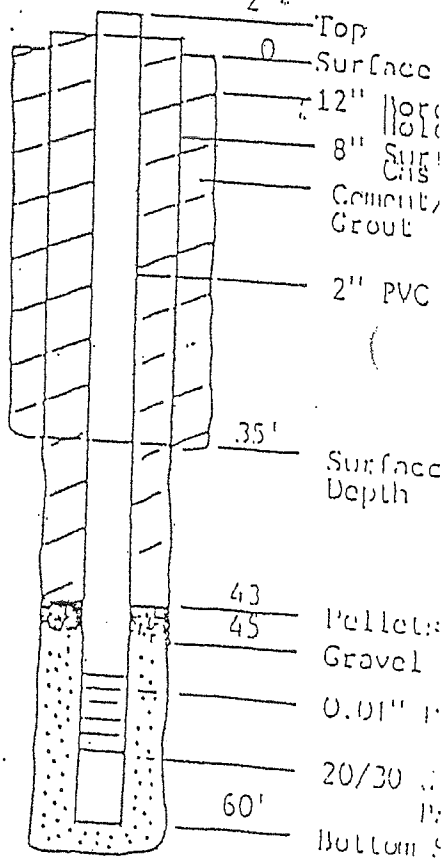
A Marley Company

CT:

DATE:

SAMPLE	LITHOLOGY
X	Sand, fine to medium grain, tan, shell
X	Peat, silty clay and sand matrix, creosote stain
X	Clay, light gray, soft, organics, creosote odor
X	Sand, fine to medium grian, tan, slight creosote odor
X	Sand, fine to coarse grain, gravel, tan, white, streaks of yellow and gray clay

MONITOR WELL DATA



REPRESENTATIVE

Layne

PROFESSIONAL SERVICES FOR WATER

Sheet 1 of 1

LOG OF BORING

PROJECT: MOBILE, ALA. | BORING# B-135 (I-1) | PAGE 1 OF 1
LOCATION: 80' N. of RC1A | LOGGED BY: JOHN WEBB, P.G.
CLIENT: CAVENHAM FOREST IND. | DATE: 11/1/94 | FILE | APPROVED
DRILLER: ENVIROCORP - R. CLARK

REMARKS: ST = Shelby tube NR = No Recovery SS = Split Spoon OG = Original Grd
WOR = Weight of Rod

DEPTH	GRAPHIC COLUMN	SAMPLE TYPE	CONTAM*	RECOVRY	BPF	PENETR(TSF)	LITHOLOGY OR SOILS DESCRIPTION
		Auger	NA	NA	NA	NA	Red-dark brown, med-fine silty Sand (SM)
		ST	NA	0.7/1	NA	2.5	Vy. tight, clayey, med-fine sand; trace silt, roots (SM) (FILL)
		ST	NA	1.7/2.0	NA	2.5	Top .25' red-tan, clayey F-M. sand w/pea gravel, then tan-gray w/black strks, Silty Med-Fine Sand w/red clay lumps (SC
5'		ST	NA	1.0/1.0	NA	1.0	Red-gray to buff sandy clay (6"); bot 6" M-C buff sand, silty (ML SM)
	NR	3 ft SS	NA	0.5/3.0	NA	NA	Buff-pink Fine-Med. Sat'd Sand, trc silt (SM-SP) (FILL)
IG →			Vist				Trace Visual + Odor - SS refusal @ 8'
	NR	2 ft SS	"	0	15-20 7-6	NA	Split Spoon broke in half - hit wood probable original ground @ 8.0'
10'	NR	3 ft SS	"	0	NA	NA	No recovery, but abundant Fine-Med. Sand in pit. (SM P SP)
	NR	3 ft SS	odor	1.0/3'	NA	NA	Top 6" peaty (woody) Coarse Sand w/Vis odor (Pt)
15'							Bot 6" Med-Fine tan-brown sand, silty (SM)
		1 ft SS	Vis	2" Refus.	2" Refusal	NA	Dark-Med gray clayey silt-F. Sand
		3 ft SS	Lot of Vis.	2.2/2.2'	3-8 15-24	NA	0.7' Buff, pink Med-Coarse Sand w/gravel + clay lumps (wash 0.7' Gray, Fine Sa, silty w/creos. pockets then 0.6'
20'	NR	SS	odor	2"/2'			buff, pink Med-C. Sand; bot 0.2' gray, fine Sa, silty (SM) Organic, silty-clay, strong odor, vy. vy soft (OL)
		ST	Vy slight odor	2'/2'	NA	0 to 0.25	Black, organic clay w/ laminae of decayed vegtn (OL-
		ST	Slight Odor	2'/2'	NA	0 to 0.25	& Fine Sand pkts. Soft to vy Soft. Top 10" vy Sandy OH) Dark gray, silty clay w/ occasional Sand pkts (CL MH)
25'	? WASH OUT ?	5 ft SS			WOR		Probably as above
30'				1.3/5		0.5	Dark gray, silty clay, soft top bin; then Bin pat (MH-PT)
35'							

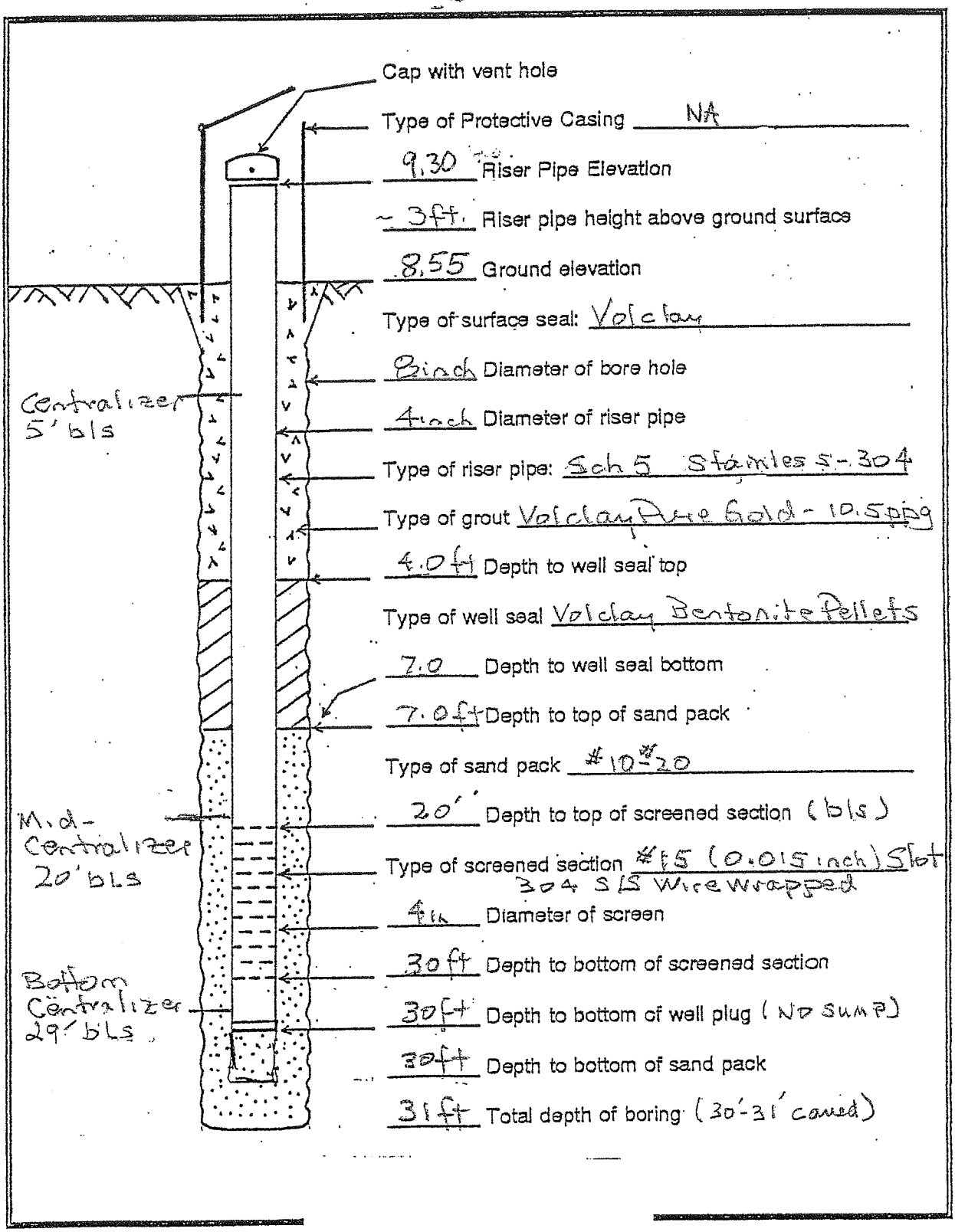
TYPE GROUT: Volclay-Pure Gold | WEIGHT(PPG): 10.5 | QUANTITY(ESTD GALLONS): ~6 gal | TOTAL DEPTH(FT): 31.0ft
WELL SET? Yes | WELL# I-1 | WELL SCHEMATIC? ATTACHED? Yes | *NOTES: CONTAM=VISUAL/ODOR? *RECOVERY IN FT/FT | *PENETR(TSF)=POCKET PENETOMETER R'DNG *BPF=SPLIT SPOON PENETRATION BLOWS/0.5FT

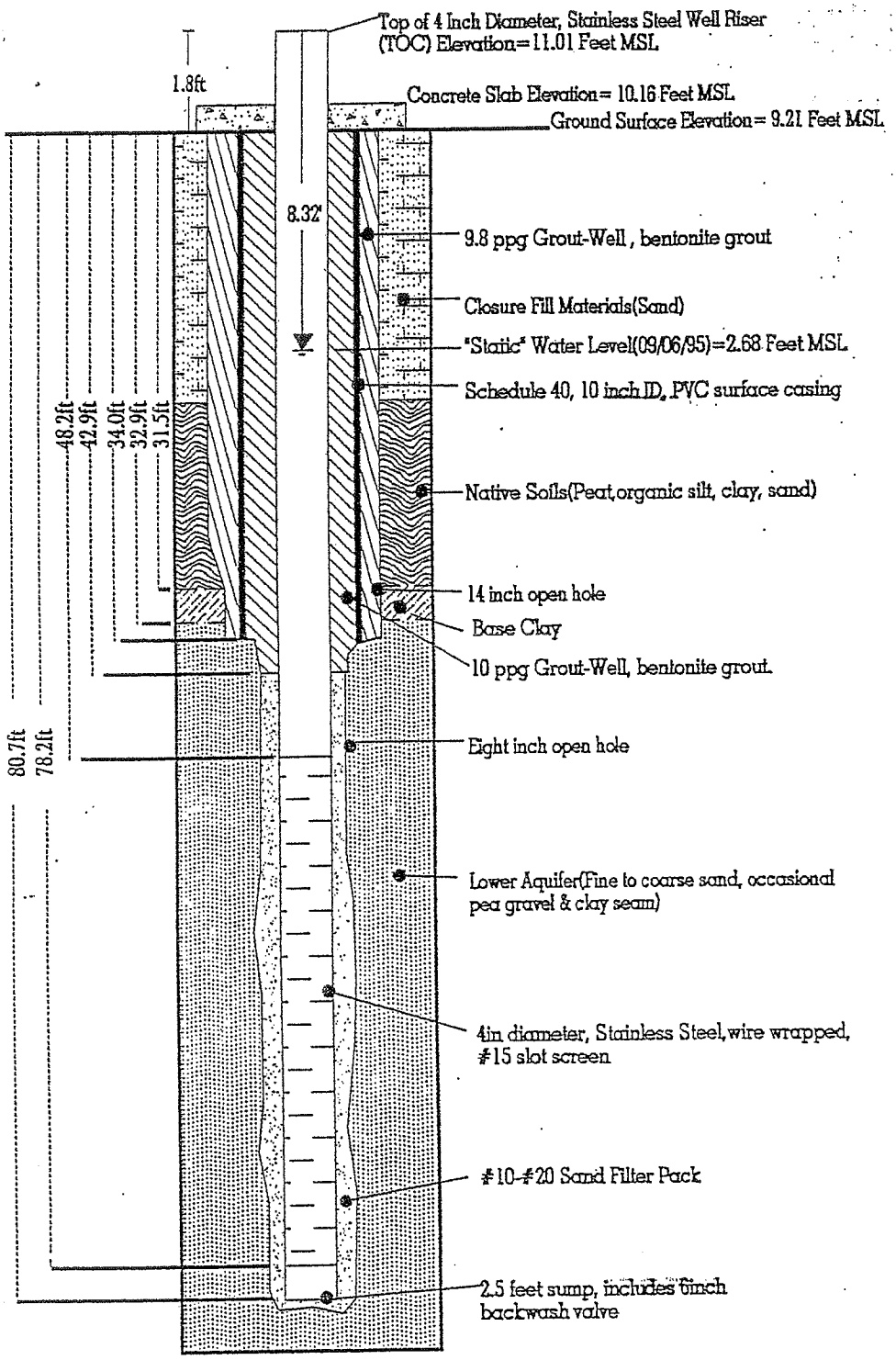
MONITOR WELL CONSTRUCTION "AS-BUILT"

PROJECT MOBILE, ALA - CAVENHAM WELL NO. I-1

LOCATION E. CLOSURE ~ 80' North RC-1A DATE COMPLETED 11/1/94

INSTALLED BY ENVIROCORP / JOHN WEBB DEPTH T.D 31.0 ft.





Not Drawn To Scale

Revised 09/06/95-Added water level, et al, elevations

INJECTION WELL SCHEMATIC- WELL#12A Mobile, Alabama		
08/30/95	Chkd by:	Drawn by: JWW
CAVENHAM FOREST INDUSTRIES INC.		
ENVIRONMENTAL SERVICES COLUMBIA, MISSISSIPPI		
John Webb Consulting- Diamondhead, Mississippi		

LOG OF BORING

PROJECT MOBILE, ALA. BORING# B-138 (I-3) PAGE 1 OF 2

LOCATION 23' SOUTH of B-137 LOGGED BY JOHN WEBB, P.G.

CLIENT CAVENHAM FOREST

DRILLER ENVIROCORP - R. CLARK DATE 11/8/94 FILE

APPROVED

REMARKS:

DEPTH	GRAPHIC COLUMN	SAMPLE TYPE	CONTAM*	RECOVERY	BPF	PENETR(TSF)	LITHOLOGY OR SOILS DESCRIPTION
5							WASH WATER REDDISH TO 10' PREDOMINANTLY Fine Sand w/ minor Clay
			MUD ROTARY TO 26'				
10							
15							
							WASH WATER CHANGES TO DARK GRAY @ 17', PLUS CREOSOTE ODOR & OIL FILM. LOSING DRILL FLUID
20							
25							
		ST	Vis. Top. odor bot.	1.7/2'	NA	<0.5	Top 0.15' = peat (woody), vy soft, Dark brown-black; Bot 1.55' = Silty, organic clay - Dark olive gray w/ sand pockets; occas. wood. (Pt-OH)
30		ST	Trace odor	2'/2'	NA		Top 0.8' as above. Bot 1.2' Transition to woody peat at base (30ft) No clay bottom (6") (OL-Pt)
		ST	No odor	2'/2'	NA	.75 1.0	Top 2" woody peat. Then Light blue-gray, silty sandy clay (CL), more dense with depth. Pocket of decayed plant (CL)
		ST	No odor	1.5'/2'	NA	.75 1.0	Gray to Lt. blue, sandy clay to very fine sandy Clay to very clayey sand @ 33'-34' (CL-SC)
35		S...	odor odor	1'/2'	NA	1.0	Top 0.8' very clayey fine to med. Sand - cohesive very hard (SC-CL) Bottom 0.7' Fine to medium silty Sand, med gray (SM)
			WASH TO 72.5'				

TYPE GROUT Pure Gold WEIGHT(PPG) 10.3 QUANTITY(ESTD GALLONS) 60+gal TOTAL DEPTH(FT) 72.5

WELL SET? Yes WELL# I3 WELL SCHEMATIC? Yes ATTACHED? Yes

▲ ▶ = 8" PVC casing

*NOTES: CONTAM=VISUAL/ODOR? *RECOVERY IN FT/FT

*PENETR(TSF)=POCKET PENETOMETER R'DNG *BPF=SPLIT SPOON PENETRATION BLOWS/0.5FT

Bottom (Set prior to well installation)

LOG OF BORING

PROJECT MOBILE, ALA. BORING# B-138 (I-3) PAGE 2 OF 2

LOCATION 23' South of B-137 LOGGED BY JOHN WEBB, P.G.

CLIENT CAVENHAM FOREST DATE 11/8/94 FILE

DRILLER ENVIROCORP - R. CLARK APPROVED

REMARKS:

DEPTH	GRAPHIC COLUMN	SAMPLE TYPE	CONTAM*	RECOVERY	BPF	PENETR(TSF)	LITHOLOGY OR SOILS DESCRIPTION
45							
50							SAND & Pea Gravel cuttings
55							
60							
65							
70							WASH TO 72.5'
75							

TYPE GROUT PURE GOLD WEIGHT(PPG) 10.3 QUANTITY(ESTD GALLONS) 60+Gal TOTAL DEPTH(FT) 72.5'

WELL SET? YES WELL# I3 WELL SCHEMATIC? Yes ATTACHED? Yes

*NOTES:CONTAM=VISUAL/ODOR? *RECOVERY IN FT/FT

*PENETR(TSF)=POCKET PENETOMETER R'DNG

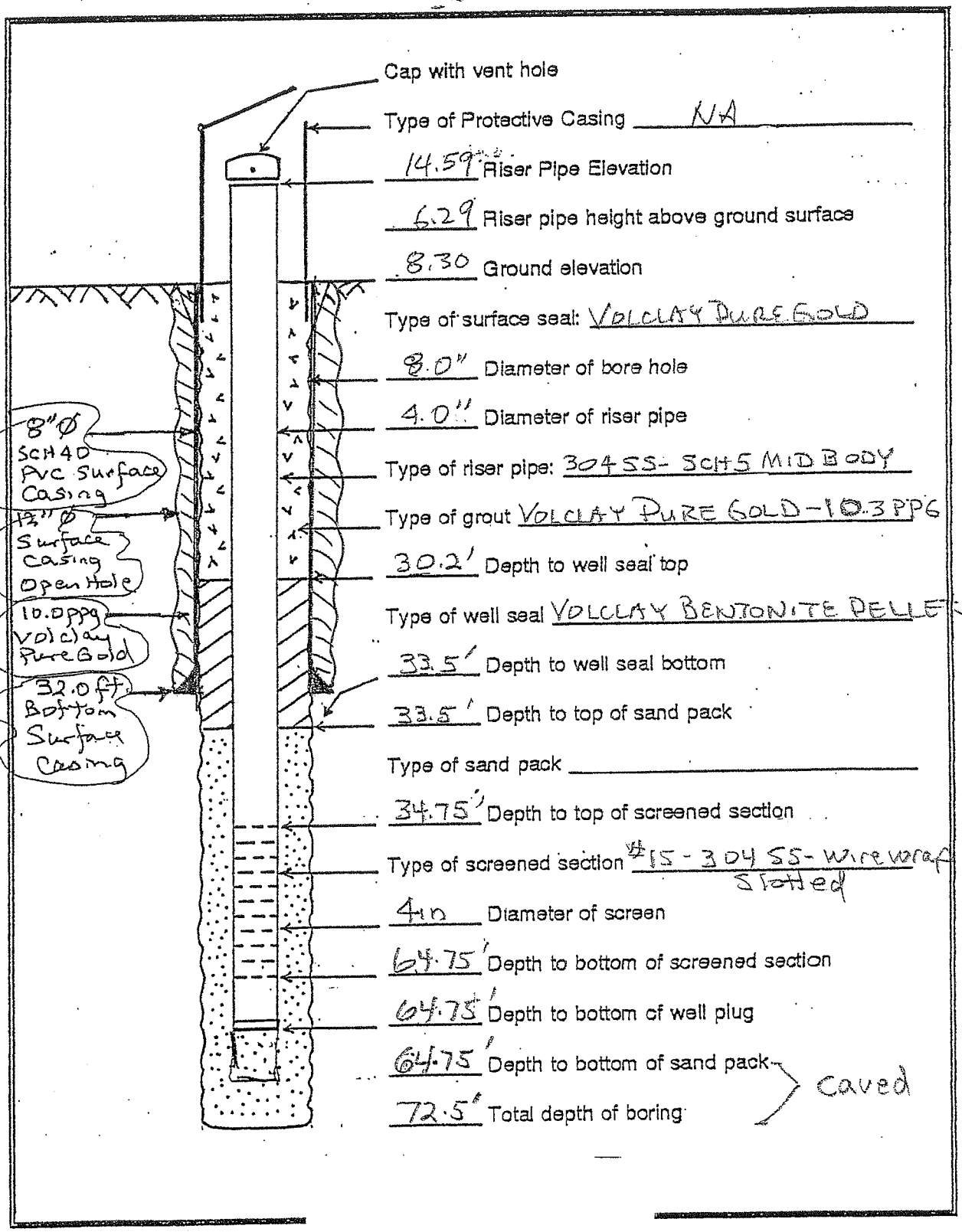
*BPF=SPLIT SPOON PENETRATION BLOWS/0.5FT

MONITOR WELL CONSTRUCTION "AS-BUILT"

PROJECT MOBILE, ALA. WELL NO. I3 (B-138)

LOCATION 23' S. of I3; 15' East of W. Fence DATE COMPLETED 11/8/94

INSTALLED BY ENVIRDCORP / JOHN WEBB DEPTH 64.75'



FOSTER WHEELER ENVIRONMENTAL CORPORATION

SOIL BORING LOG

Project: Cavenham Forest Industries
Location: Mobile, Alabama SWMU 27
Total Depth Drilled: 30.5'
Land Surface Elevation: _____
Engineer/Geologist: Conrad J. Biernacki
Driller(s): Mike Comm. f
Drilling Rig/Method: truck mounted mud rotary
Auger or Bit Diameter: 6"
Sampling Devices: Shelby tube & 2' split-spoon

Boring Identification: 27-SS-21 (well B-139)
Date Started: _____ Date Completed: _____
Facility Coordinates
North: _____ East: _____
of _____
of _____
Drilling Fluid: water with bentonite additive
Other/Comments: _____

Depth In Feet	Soil Sample NO.	SD.	REC.	Lithologic Description	LOG	USCS	Blows per Foot or TSF	PID (ppm)	Remarks or Observations
	00		100%	0'-1' f sandy silt, tr. clay, dk gray brown (10YR 4/2), sl moist, sl stiff, non-plastic, grasses, roots		ML			drlg between samples with solid stem augers WT ~ 3'
	3b		100%	3'-4' clayey, silty f sand, gray (10YR 6/1), wet, soft, non plastic Fe-staining throughout, WT ~ 3'		SM			
5			100%	5'-6' clay, gray (10YR 6/1), wet, stiff, plastic, Fe staining throughout		CH	1		
7			100%	10'-11' silty, clay, gray (10YR 6/1), wet by wet, moderately, plastic, Fe stained, odor		CH	1		began drlg with mud rotary from 11' to TD between samples
15			100%	14'-15' f-med sand brown to gray (10YR 4/3), wet, loose, Fe staining throughout		SW	1		
20			100%	19'-20' 0"-4" f-med sand, brown to gray (10YR 6/3), wet, loose Fe-S-no 4"-5" clay, gray (10YR 6/1), moist soft, plastic 5"-12" f-med sand, red to 5YR 5/8, v moist loose.		SW-CH, SW	14, 22	1'	

NO. Sample Identification Number
SD. Sampling Device (See Below)
REC. Length of recovered Sample (ft or %)
USCS Unified Soil Classification System
PID Photoionization Detection Reading (highest ppm @ sample surface)
▼ Observed Water Table
TD Total Depth

Split Spoon or Core Barrel Sampler
Thin Walled Tube Sampler
Auger
No Sample

Graphic Log Legend

- Clay (CL,CH)
- Silty Clay (CL)
- Sandy Clay (ML)
- Silt (ML)
- Sandy Silt (ML)
- Clayey Silt (MH)
- Peat (OL,OH)
- Sand (SW,SP)
- Silty Sand (SM)
- Clayey Sand (SC)
- Gravel (GW,GP)
- Fill/Debris
- Waste

Comments

FOSTER WHEELER ENVIRONMENTAL CORPORATION

SOIL BORING LOG

Project: _____ Boring Identification: 27-55-01 (well # 139)

Location: _____ Date Started: 7-21-95 Date Completed: 7-21-95

Total Depth Drilled: _____ Facility Coordinates

Land Surface Elevation: _____ North: _____ East: _____

Engineer/Geologist: _____ of _____

Driller(s): _____ of _____

Drilling Rig/Method: _____ Drilling Fluid: _____

Auger or Bit Diameter: _____ Other/Comments: _____

Sampling Devices: _____

Depth in Feet	Soil Sample NO.	SD.	REC.	Lithologic Description	LOG	USCS	Blows per Foot or TSF	PID (ppm)	Remarks or Observations
25			100%	24'-25' f. to coarse sand, yellow (10YR 7/8), wet, loose		SW	10, 18		
30			100%	29'-30' f-med. sand, v. pale brown (10YR 8/3), wet, loose, clean		SW	9, 12		drilled TD = 30.5'
35									
40									

NO. Sample Identification Number
SD. Sampling Device (See Below)
REC. Length of recovered Sample (ft or %)
USCS Unified Soil Classification System
PID Photoionization Detection Reading (highest ppm @ sample surface)
▼ Observed Water Table
TD Total Depth

Split Spoon or Core Barrel Sampler

Thin Walled Tube Sampler

Auger

No Sample

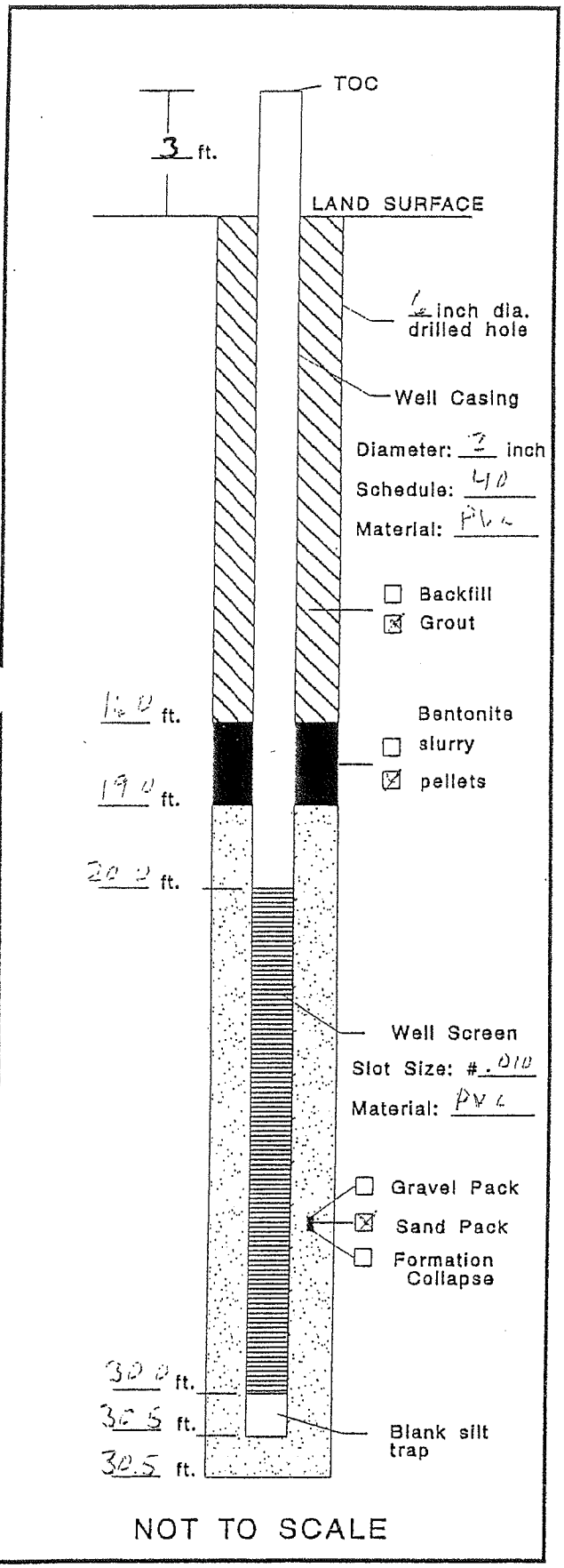
Graphic Log Legend

- Clay (CL,CH)
- Silty Clay (CL)
- Sandy Clay (ML)
- Silt (ML)
- Sandy Silt (ML)
- Clayey Silt (MH)
- Peat (OL,OH)
- Sand (SW,SP)
- Silty Sand (SM)
- Clayey Sand (SC)
- Gravel (GW,GP)
- Fill/Debris
- Waste

Comments

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Well Completion Log



Project: Carvenham Well: B-139

Location: Mobile

County: _____ State: Alabama

Permit No.: _____

Land-Surface Elevation _____ feet NGVD ☐ surveyed

TOC _____ feet NGVD ☐ estimated

Installation Date(s): 7-21-95

Drilling Method: mud rotary

Drilling Contractor: Geotechnical Services Inc. (GSI)

Drilling Fluid: water w/ bentonite additive

Fluid Loss During Drilling: 0 gallons

Development Technique(s) _____

Water Removed During Development: ____ gallons

Static Depth to Water: ____ feet below TOC

Pumping Depth to Water: ____ feet below TOC

Pumping Duration: _____ hours _____ minutes

Yield: _____ gpm Date: _____

Specific Capacity: _____ gpm/ft

Well Purpose: _____

Remarks: _____

Prepared By: Conrad J. Bieniulis

FOSTER WHEELER ENVIRONMENTAL CORPORATION

SOIL BORING LOG

Project: Cavenham Forest Industries
Location: Mobile, Alabama SWMU 19
Total Depth Drilled: dpld. to 26 smpld. to 27'
Land Surface Elevation: _____
Engineer/Geologist: Conrad J. Bieniulis
Driller(s): Mike Conn, F
Drilling Rig/Method: truck mounted mud rotary
Auger or Bit Diameter: 6"
Sampling Devices: 2' split spoon 2" ID

Boring Identification: 19-SS-01 (well B-140)
Date Started: 7-20-95 Date Completed: 7-20-95
Facility Coordinates
North: _____ East: _____
of _____
of _____
Drilling Fluid: water with bentonite additive
Other/Comments: _____

Depth in Feet	Soil Sample NO.	SD.	REC.	Lithologic Description	LOG	USCS	Blows per Foot or TSF	PID (ppm)	Remarks or Observations
	00		100%	0'-5.5" gravel & sand mix - road fill, lt. brownish gray (10YR 6/2), moist, loose		Fill	6, 5		
	12		100%			CH	1, 1	3	
	36		100%	5.5"-12" med. sand, backfill, red (2.5 YR 5/6), well sorted, moist, loose		CH, OH	1		WT ~ 3'
5				1'-2' clay, dark. grayish brown (2.5 Y 4/2), v. moist, stiff, plastic					
				3'-4' alternating clay and peat, black (10YR 2/1); clay - soft, organic, plastic, v. moist to wet; peat - peat fragments; WT ~ 3'					
			0%	9'-10' no recovery					no recovery
10				14'-15' clay, black to v. dark. gray, (10YR 2/1 to 10YR 3/1), organic-rich, v. moist, v. soft, plastic, occass. wood fragments		CH	1		
15			100%						
				19'-20' clay, dark. gray (10YR 4/1), v. moist, v. soft, plastic		CH	1		
20			100%						

NO. Sample Identification Number
SD. Sampling Device (See Below)
REC. Length of recovered Sample (ft or %)
USCS Unified Soil Classification System
PID Photoionization Detection Reading (highest ppm @ sample surface)
▼ Observed Water Table
TD Total Depth

Split Spoon or Core Barrel Sampler
Thin Walled Tube Sampler
Auger
No Sample

Graphic Log Legend

- Clay (CL,CH)
- Silty Clay (CL)
- Sandy Clay (ML)
- Silt (ML)
- Sandy Silt (ML)
- Clayey Silt (MH)
- Peat (OL,OH)
- Sand (SW,SP)
- Silty Sand (SM)
- Clayey Sand (SC)
- Gravel (GW,GP)
- Fill/Debris
- Waste

Comments

FOSTER WHEELER ENVIRONMENTAL CORPORATION

SOIL BORING LOG

roject: _____
Location: _____
Total Depth Drilled: _____
Land Surface Elevation: _____
Engineer/Geologist: _____
Driller(s): _____
Drilling Rig/Method: _____
Auger or Bit Diameter: _____
Sampling Devices: _____

Boring Identification: 19-SS-01 (well B-140)
Date Started: 7-20-95 Date Completed: 7-20-95
Facility Coordinates
North: _____ East: _____
of _____
of _____
Drilling Fluid: _____
Other/Comments: _____

Depth in Feet	Soil Sample NO.	SD.	REC.	Lithologic Description	LOG	USCS	Blows per Foot or TSF	PID (ppm)	Remarks or Observations
25			100%	25'-26' clay, dark gray (10YR 4/1), v. moist, v. soft, plastic		CH	1		
				26'-27' clay, gray (10YR 6/1), moist, soft, plastic, organic fragments		CH	1		drld TD = 26' sampld TD = 27'
30									
35									
40									

NO. Sample Identification Number
SD. Sampling Device (See Below)
REC. Length of recovered Sample (ft or %)
USCS Unified Soil Classification System
PID Photoionization Detection Reading (highest ppm @ sample surface)
▼ Observed Water Table
TD Total Depth

Split Spoon or Core Barrel Sampler
Thin Walled Tube Sampler
Auger
No Sample

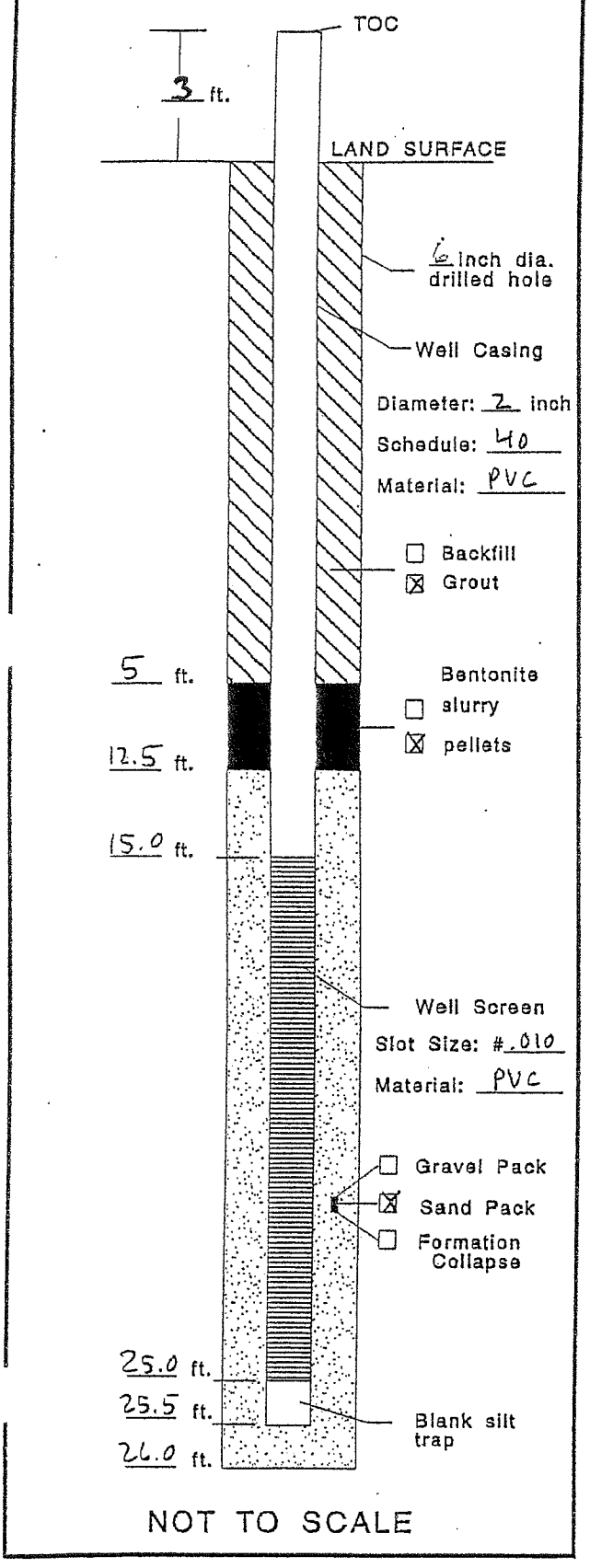
Graphic Log Legend

- Clay (CL,CH)
- Silty Clay (CL)
- Sandy Clay (ML)
- Silt (ML)
- Sandy Silt (ML)
- Clayey Silt (MH)
- Peat (OL,OH)
- Sand (SW,SP)
- Silty Sand (SM)
- Clayey Sand (SC)
- Gravel (GW,GP)
- Fill/Debris
- Waste

Comments

FOSTER WHEELER ENVIRONMENTAL CORPORATION

Well Completion Log



Project: Cavenham Well: B-140

Location: Mobile

County: _____ State: Alabama

Permit No.: _____

Land-Surface Elevation _____ feet NGVD ☐ surveyed

TOC _____ feet NGVD ☐ estimated

Installation Date(s): 7-20-95

Drilling Method: mud rotary

Drilling Contractor: Geotechnical Services Inc. (GSI)

Drilling Fluid: water w/ bentonite additive

Fluid Loss During Drilling: 0 gallons

Development Technique(s) _____

Water Removed During Development: ____ gallons

Static Depth to Water: ____ feet below TOC

Pumping Depth to Water: ____ feet below TOC

Pumping Duration: _____ hours _____ minutes

Yield: _____ gpm Date: _____

Specific Capacity: _____ gpm/ft

Well Purpose: _____

Remarks: _____

Prepared By: Conrad J. Bieniulis

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

August 15, 2025

Jennifer K. McCord, Chief
Compliance and Enforcement Section
Industrial Hazardous Waste Branch
Land Division
1400 Coliseum Boulevard
Montgomery, AL 36110

Re: Revised Post Closure Permit Application Attachments
Cavenham Forest Industries LLC
Mobile, AL
EPA I.D. ALD 057 226 904

Dear Ms. McCord:

On behalf of our client Cavenham Forest Industries LLC (CFI), Environmental Management Services, Inc. (EMS) is providing a response to ADEM's July 16, 2025 correspondence regarding differences between measured total well depths and the depths listed in the facility's RCRA Hazardous Waste Facility Permit.

The issue of depth discrepancies was first raised following the March 22, 2023 Operations and Maintenance inspection, as documented in ADEM's August 24, 2023 letter. At that time, it became evident that the permit-listed depths did not align with actual field measurements. Review of available construction records indicated that many of the historic values were inaccurate — often recorded from ground surface rather than top of casing (TOC), or in some cases based on estimated values or drillers records rather than verified construction data.

In response, the facility initiated a sitewide monitoring well inspection and maintenance measures project to ensure accurate depth records for all wells. This work was conducted between August 2023 and April 2024 in order to specifically address ADEM's concerns and fulfill RCRA Permit Conditions III.B.1.a and III.B.1.a.i.

These measures involved the following steps:

1. **Pump Removal for Full Access** – Pumps were removed from each monitoring and recovery well where present using a boom truck or carry deck crane, allowing unobstructed access for measurement.
2. **Initial TOC-Based Measurement** – Each well was measured from the top of casing to the bottom to the nearest 0.01 foot. These measurements were then compared to permit-listed depths and historic construction diagrams.
3. **Well Redevelopment** – Wells showing evidence of sediment accumulation were agitated and pumped using an air-driven pump and compressor. Sediment was removed and containerized for appropriate handling and disposal.
4. **Post-Redevelopment Measurement** – Following cleaning, wells were re-measured to verify that depth had been restored to original construction conditions.

5. **Downhole Camera Inspections** – Wells with significant or unexplained variances were video-inspected to confirm casing integrity and identify obstructions. No casing damage or significant structural defects were observed.
6. **Plumbing Improvements** – Where applicable, rigid drop pipe was replaced with flexible tubing to allow future redevelopment and maintenance without heavy equipment mobilization.
7. **Data Reconciliation** – All final post-redevelopment measurements were reviewed against available boring logs and construction diagrams to determine accurate "revised original" depths measured from TOC.

This investigation confirmed that the discrepancies were due primarily to inaccurate historic records or minor sediment accumulation, both of which have now been addressed.

Following completion of the sitewide field work and subsequent to ADEM's 2025 on-site inspection conducted by Ms. Marwa Sabeeh, EMS was contacted by Mr. Robert B. Stanley (ADEM) on May 12, 2025 regarding discrepancies noted between field-measured well depths and those listed in the facility's permit. In response, each well was re-measured using TOC reference points to confirm that they matched the "revised original" well depths previously established through redevelopment and inspection activities. All wells were found to be in compliance with these "revised original" depths, with the following exceptions: RW-3A, RW-3B, RW-4, RW-5, RW-11, RW-12, and RW-13, which could not be accurately measured due to the presence of pumps; and B-24, B-60A, and UG-2, which were found to contain sediment which had accumulated since the last well cleaning. The sediment-affected wells were subsequently cleaned, re-measured, and were found to be consistent with the "revised original" well depths. B-24 incorporates a two-foot "natural sump" which was installed in a sand/silty clay and requires higher maintenance than wells which contain traditional sumps. The exact well construction of B-60A and UG-2 are unknown, as only boring logs without well construction details exist in the site database.

Following this verification, Mr. Stanley recommended incorporating the corrected measurements into the permit renewal application to replace the inaccurate historic records. This recommendation was then communicated to Ms. Sabeeh, and the revisions were made accordingly to the Groundwater Monitoring and Remediation Well Construction Summary tables in Attachment P and Attachment R of the most recent revised Post Closure Permit Application, which was submitted on July 11, 2025.

After incorporation of the revisions, Ms. Sabeeh requested additional clarification similar to the questions presented in ADEM's July 16, 2025 correspondence. The history of the measurement discrepancies, the comprehensive field verification process, and the rationale for replacing the original well depths with the proposed "revised original" TOC-based depths were discussed in a phone call on July 30, 2025, and the decision was made to draft a letter summarizing previous inquiries and steps taken to identify and correct discrepancies with original well construction data. This letter will be included in the revised permit application as rationale for use of the proposed "revised original" well depths.

In the updated RCRA Hazardous Waste Facility Permit application, the facility will:

- Include the corrected "revised original" TOC-based depths in Table P-1.
- Provide an explanation of the discrepancies between previous permit records and the revised depths.
- Submit all available boring logs and well construction diagrams for permitted wells.

EMS believes the work completed fully addresses the concerns outlined in the July 16, 2025, letter and ensures that ADEM has an accurate record of the facility's monitoring well network going forward. Following the revisions listed above to the RCRA Hazardous Waste Facility Permit, this recurring issue regarding facility well depths should be resolved. If you have any questions or require additional information, please call either Collin R. Creel or Chris Johnson at (601) 544-3674.

Sincerely,
Environmental Management Services, Inc.

Collin R. Creel, P.G.
Project Geologist

Enclosure:

c: Kurt Paschl, CFI
Devin Fisher, CFI
Chris Johnson, EMS

ATTACHMENT P

GROUNDWATER MONITORING PLAN

ATTACHMENT P

GROUNDWATER MONITORING PLAN

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

July 11, 2025

GROUNDWATER MONITORING PLAN
Cavenham Forest Industries LLC
Mobile, Alabama

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 GROUNDWATER MONITORING SYSTEM DESCRIPTION 2
2.1 Upgradient Monitoring Well 2
2.2 Upper Aquifer Monitoring Wells 2
2.3 Lower Aquifer Monitoring Wells 3
2.4 Corrective Action Effectiveness Monitoring Wells 3
2.5 Piezometers 3
2.6 Plume Defining Boundary Wells 3
2.7 Recovery System 4
3.0 MONITORING FREQUENCY AND PARAMETERS 5
3.1 Upgradient Monitoring Well 5
3.2 Upper and Lower Aquifer Compliance Monitoring Wells 5
3.3 Effectiveness Monitoring Wells 5
3.4 Plume Defining Boundary Wells 5
3.5 Recovery System 5
4.0 SAMPLE COLLECTION PROCEDURES 7
4.1 Equipment Inventory 7
4.2 Well Site Preparation 7
4.3 Water Level Measurement 8
4.4 Total Well Depth Measurement 8
4.5 Evacuation of Standing Water 8
4.5.1 Field Parameter Measurement 9
4.5.2 Instrument Maintenance and Repair 10
4.6 Sample Collection 11
4.7 Field Analysis 13
4.8 Equipment Decontamination Procedures 13
5.0 SAMPLE PRESERVATION, SHIPMENT AND ANALYSIS 15
5.1 Sample Preservation 15
5.2 Sample Shipment 15
5.3 Sample Analysis and Laboratory Designation 15
5.4 Sample Containers 16
5.5 Quality Assurance Samples 16
6.0 RECORD KEEPING 18
6.1 Sample Labels 18
6.2 Groundwater Sampling Data Form 18
6.3 Chain-of-Custody 18
7.0 REPORTING 20

8.0 MONITOR WELL CONSTRUCTION AND INSTALLATION 22
8.1 Materials 22
8.2 Soil Borings 23
8.3 Well Installation 24
8.4 Drill Rig Decontamination 25
8.5 Well Development and Testing 25

LIST OF TABLES

Table	Description
P-1	Groundwater Monitoring and Recovery Well Construction Details
P-2	Groundwater Monitoring Parameters
P-3	Sampling Equipment Checklist
P-4	Depth to Water Measurement
P-5	Sample Container List and Preservatives
P-6	Sample Analysis Techniques

LIST OF FIGURES

Figure	Description
P-1	Groundwater Monitoring Well Locations
P-2	Groundwater Sampling Data Form
P-3	Sample Container Label (Typical)
P-4	Chain-of-Custody Record Form
P-5	Upper Aquifer Monitor Well (Typical)
P-6	Lower Aquifer Monitor Well (Typical)

1.0 INTRODUCTION

Cavenham Forest Industries LLC (CFI) maintains a closed hazardous waste facility in Mobile, Alabama that was used for preservative treating of wood products using pentachlorophenol and creosote. The wood treating operation has been terminated and the plant has been dismantled.

While the plant was operating, the facility maintained two hazardous waste surface impoundments: the two (2) Vacuum Ponds; and the Aeration Pond. These impoundments contained the listed hazardous waste K001 that is regulated by the Alabama Department of Environmental Management (ADEM). ADEM Administrative Code Rule 335-14-2 defines the K001 waste stream.

These surface impoundments were closed in place by dewatering, solidifying with lime kiln dust, and backfilling with waste from other onsite units. The waste was further encapsulated by encircling the area with a soil-bentonite slurry cutoff wall containing a vertical, high-density polyethylene (HDPE) liner, and covering with a cap composed of both natural clay and synthetic liners. Approximately twenty percent of the northern part of the Aeration Pond is not enclosed within the cutoff wall and this area is referred to as the north extension. The locations of the closed impoundments and the present hazardous waste management area (area of the closed landfill containing the former units) that will require groundwater monitoring during the post-closure period are indicated on the Groundwater Monitoring Well Locations map (Figure P-1).

This Groundwater Monitoring Plan (GWMP) describes the procedures for collecting, shipping and analyzing samples to satisfy the post-closure groundwater monitoring requirements contained in ADEM Administrative Code Rules 335-14-8-.02(5)(c)8.(iv).

The objective of the plan is to outline a groundwater monitoring program for this site and to define procedures that will effectively evaluate the groundwater corrective action that is occurring. Following a description of the groundwater monitoring system, the plan will focus on providing procedures, methodology and check lists that when followed, will assure the accurate collection of groundwater monitoring samples and field measurements.

CFI's Groundwater Monitoring Plan is organized into the following sections:

Section 2.0: Groundwater Monitoring System Description
Section 3.0: Monitoring Frequency and Parameters
Section 4.0: Sample Collection Procedures
Section 5.0: Sample Preservation, Shipment and Analysis
Section 6.0: Record Keeping
Section 7.0: Reporting
Section 8.0: Monitor Well Construction and Installation

2.0 GROUNDWATER MONITORING SYSTEM DESCRIPTION

CFI employs a separate groundwater monitoring system for each of two water-bearing soil horizons that underlie the Mobile facility. These groundwater monitoring systems monitor the groundwater quality in the shallow water-table aquifer, referred to as the "Upper Aquifer", and in a deeper massive sand horizon, referred to as the "Lower Aquifer". The locations of the monitoring wells in each of these aquifers are indicated on Figure P-1. Table P-1 provides a summary of construction details for each well.

2.1 Upgradient Monitoring Well

Monitoring well UG-2, which is located south of the office and north of the closure area (Figure P-1), will serve as the upgradient well. This well will be used as the upgradient well for both the Upper Aquifer and the Lower Aquifer since the confining clay aquitard is not present in this area and the two aquifers appear to be hydraulically connected.

2.2 Upper Aquifer Monitoring Wells

Monitoring wells RC-1, RC-2, RC-3 and RW-1 will serve as compliance monitoring wells for the Upper Aquifer. Monitoring wells RC-1, RC-2 and RC-3 are downgradient of the closure area, and RW-1 is on the upgradient side in the vicinity of the north extension of the RCRA cap (Figure P-1).

2.3 Lower Aquifer Monitoring Wells

Monitoring wells RC-1A, RC-2A, RC-3A and RW-2 will serve as compliance monitoring wells for the Lower Aquifer. Monitoring wells RC-1A, RC-2A and RC-3A are downgradient of the closure area, and RW-2 is on the upgradient side in the vicinity of the north extension of the RCRA cap (Figure P-1).

2.4 Corrective Action Effectiveness Monitoring Wells

During the corrective action period, one monitoring well in the Upper Aquifer and three monitoring locations in the Lower Aquifer will be used to monitor the effectiveness of the corrective action at the Mobile site. Effectiveness monitoring well E-1 and recovery trenches T-1 and T-2 will be used to monitor the effectiveness of corrective action of the Upper Aquifer groundwater. Effectiveness monitoring wells RW-3A, RW-4, and RW-5 will be used to monitor the Lower Aquifer groundwater beneath the hazardous waste management area. Data from these wells together with data from the neighboring point of compliance wells and boundary wells will provide adequate data for contouring the contaminant plume. The locations of these wells are indicated on Figure P-1.

2.5 Piezometers

CFI will maintain a network of piezometers at the site to verify that the recovery system is effectively controlling the hydraulic gradients in the vicinity of the site. The locations of the piezometers are indicated on Figure P-1.

2.6 Plume Defining Boundary Wells

Monitoring wells B-97, B-108A, B-128, and E-2 will serve as contaminant plume defining boundary monitoring wells for the Upper Aquifer. Monitoring wells RW-3B, RW-8A, B-24, B-25, B-36, B-60A, B-65, and B-101 will serve as contaminant plume defining boundary monitoring wells for the Lower Aquifer. These wells are near the downgradient limits of the contaminant plumes and will be used to monitor the advancement or retraction of the plume. The locations of these wells are indicated on Figure P-1.

2.7 Recovery System

Following the implementation of the Corrective Action Plan (CAP) Addendum, the site will have a total of thirty-one (31) recovery wells, two (2) recovery trenches, and a gradient control system which is pumped from three (3) locations. Of these thirty-one (31) recovery wells, fifteen (15) wells are designated recovery wells with the other sixteen (16) wells performing dual roles such as recovery in addition to being a boundary, compliance, effectiveness, or injection well. Of the fifteen (15) designated recovery wells, two (2) of these recovery wells have not yet been installed but will be installed following the approval of the CAP Addendum in the locations of AS-3 and AS-4. The existing designated recovery wells are RW-6, RW-7, RW-8, RW-9, RW-10, RW-11, RW-12, RW-13, RW-18, RW-19, RW-36, RW-37, and RW-38. Wells which perform dual roles as both recovery and boundary wells are RW-3B and RW-8A. Wells which perform dual roles as both recovery and compliance wells are RC-2, RC-3, RW-1, and RW-2. Wells and trenches which perform dual roles as both recovery and effectiveness monitoring locations are wells E-1, RW-3A, RW-4, RW-5 and recovery trenches T-1 and T-2. Wells which perform dual roles as both recovery and injection wells are wells A-1 through A-6, which are currently not being operated as either recovery or injection wells. Also a part of the recovery system is the gradient control system sump which is pumped from three (3) locations, GC SUMP, CO-7, and CO-10. The recovery system wells, trenches, and the gradient control system are indicated on Figure P-1.

3.0 MONITORING FREQUENCY AND PARAMETERS

The groundwater monitoring parameters and monitoring frequencies used to evaluate the groundwater quality beneath the waste management area at CFI's Mobile site are specified below.

Table P-2 is a list of parameters that have been selected for analysis of the groundwater at the Mobile facility. This list is based on recommendations provided by ADEM during the permitting process for this facility. Attachment L of the Post-Closure Permit Application provides statistical summary information on groundwater monitoring results obtained during the time period January 1, 2004 through December 31, 2012.

3.1 Upgradient Monitoring Well

Groundwater samples collected from the upgradient monitoring well UG-2 will be analyzed annually. Well UG-2 will be analyzed annually for Table P-2 parameters.

3.2 Upper and Lower Aquifer Compliance Monitoring Wells

Groundwater samples collected from the Upper and Lower Aquifer compliance monitoring wells will be analyzed semi-annually for Table P-2.

3.3 Effectiveness Monitoring Wells

Groundwater samples collected from each effectiveness monitoring location will be analyzed for Table P-2 parameters semi-annually.

3.4 Plume Defining Boundary Wells

Groundwater samples collected from each boundary monitoring well will be analyzed for the parameters indicated in Table P-2 semi-annually.

3.5 Recovery System

Following the implementation of the CAP Addendum, the recovery system will include thirty-one (31) recovery wells, two (2) recovery trenches, and a gradient control system, which is pumped from three (3) locations. Of the thirty-one (31) recovery wells and two (2) recovery trenches, ten (10) of the wells and both of the recovery trenches have dual roles and are sampled as either boundary, compliance, or effectiveness monitoring locations. Additionally, six (6) of the thirty-one (31) recovery wells are designated as either recovery or injection wells and are currently not being operated as either. This leaves fifteen (15) recovery wells and the three (3) recovery locations from the gradient control system which will be sampled exclusively as part of the recovery system. Groundwater samples collected from each recovery system location will be analyzed for the parameters indicated in Table P-2 minus arsenic, chromium, lead, and nickel in the frequency described below. There will be a total of 18 recovery system monitoring locations which will be sampled on a rotating basis. Half (9) of the recovery locations will be sampled on even years and the other half (9) will be sampled on odd years such that all recovery locations will be sampled over the span of two years.

4.0 SAMPLE COLLECTION PROCEDURES

4.1 Equipment Inventory

An equipment inventory will be conducted prior to sampling to make certain that adequate sampling supplies are available. A sampling equipment checklist is provided in Table P-3. Immediately prior to each sampling event, the following procedures will be accomplished:

1. Prior to and after sampling each well; ancillary equipment that will come into contact with the groundwater in the well (measuring tape, meters, etc.), will be rinsed thoroughly with acetone or methanol (as needed) followed by washing with a low phosphate detergent and final rinsing with distilled water;
2. Conductivity and pH meters will be calibrated before each sampling event. Fresh standards will be obtained at least every six months; and
3. Sample containers will be cleaned and samples preserved (if necessary) according to the requirements listed in Section 5.0.

4.2 Well Site Preparation

Upon arriving at the well site, the protective casing will be unlocked and the well casing cap will be removed from the well. A vent hole in the cap has been installed to ensure that the water level remains at ambient barometric pressure. The preliminary information requested on the Groundwater Sampling Data Form, shown as Figure P-2, will be recorded at this time. Appropriate safety precautions will be taken and protective clothing worn as necessary for sample collection. When collecting groundwater samples from monitoring wells not equipped with dedicated submersible pumps, plastic sheeting will be placed around the well to protect sampling equipment from potential contamination. Plastic sheeting will be used routinely for temporary storage of equipment and sample containers during the sampling.

4.3 Water Level Measurement

The initial water level will be recorded to the nearest 0.01 feet using either an electronic water level indicator probe or steel measuring tape. The depth to water will be referenced to a small notch inscribed into the top of the well casing corresponding to the location where the initial casing elevation was surveyed. The procedure for determining the depth to water using a steel tape is described in Table P-4.

4.4 Total Well Depth Measurement

The total depth of the well will be recorded to the nearest 0.01 feet using either a weighted electrical probe or steel measuring tape. Wells equipped with dedicated pumps that prevent a total depth measurement will be measured during pump maintenance events. Similarly, wells containing measurable levels of oily contaminants will be measured only during maintenance events. The total depth will be determined relative to the top of the well casing by lowering the pre-cleaned weighted measuring device slowly to the bottom of the well and recording the reading at the notched reference point at the top of the well casing. This reading will be used in the calculation of the volume of stagnant (standing) water in the well casing and will provide a check on the integrity of the well. To identify siltation problems this measurement will be compared to the well construction data presented in Table P-1. If the level of silt accumulation exceeds the screen/sump interface, the total well depth should be determined again after purging to confirm that the silt accumulation was removed. If purging techniques are unable to remove accumulated silts, the well will be scheduled for redevelopment. Any monitoring well that develops a history of siltation problems, as revealed from a review of prior sampling data, will undergo additional testing to confirm the integrity of the casing. If the integrity of the monitoring well casing is determined to be compromised based on excessive siltation or breach of the well screen, casing, or well seal, the monitoring well will be replaced in accordance with procedures in Section 9.0 of this plan.

4.5 Evacuation of Standing Water

Standing water will be removed from the well casing before collecting groundwater samples. A minimum of three well volumes will be removed to ensure that a

representative groundwater sample from the aquifer will be obtained. The standing water volume will be calculated from the following formula:

$$V_w = 3.14 (L-H)r^2;$$

where: V_w = Volume of standing water (cubic feet)
H = The depth from the top of the casing to the initial water level (feet),
L = The total well depth (feet), excluding depth of sediment if present.
r = The inside well casing radius (feet)

The standing water will be removed using a mechanical pump, a dedicated in-situ pump or a dedicated bailer. Prior to removing the standing water with an external mechanical pump, new or decontaminated tubing will be installed on the pump in order to prevent cross contamination.

Bailers and other equipment will be cleaned after each use. Procedures for cleaning equipment are provided in the USEPA Region 4's Laboratory Services and Applied Science Division (LSASD). Monitoring wells that are screened in high-yield formations will be bailed or pumped from above the screen in the uppermost part of the water column to ensure that fresh water from the formation has replaced stagnant water. Monitoring wells will not be purged to dryness if the recharge rate causes the formation water to vigorously cascade down the sides of the well screen resulting in an accelerated loss of volatile constituents. A minimum of three standing water volumes will be removed from each well to ensure that a representative sample of the formation groundwater is obtained.

4.5.1 Field Parameter Measurement

Field parameters (including pH, specific conductance, temperature, and turbidity) will be recorded immediately prior to purging each monitoring well. In addition, one set of field parameters will be collected and evaluated after the approximate volume of water equating to one well volume has been evacuated from the well. Field parameters will continue to be collected and evaluated after evacuation of each additional well volume for at least three and up to five well volumes, and when the parameters have stabilized for pH, specific conductance, and temperature, and when the turbidity has either

stabilized or is below 10 Nephelometric Turbidity Units (NTUs) in accordance with the acceptable criteria stated in the Alabama Environmental Investigation and Remediation Guidance (AEIRG). As stipulated by AEIRG, stabilization has occurred after pH readings remain constant within 0.1 Standard Units (SU), specific conductance varies by no more than 10 percent, and temperature is constant for three consecutive readings. The field parameter measurement data will be documented on the Groundwater Sampling Data Form (Figure P-2).

Following removal of three to five standing water volumes and stabilization of the field parameter criteria, the groundwater samples will be collected using a mechanical pump, dedicated in situ pump, or dedicated bailer.

In the event a monitoring well is incapable of yielding three standing water volumes, the well will be evacuated to dryness, allowed to recover, and then evacuated to dryness a second time to ensure the removal of stagnant water. As soon as the well recovers the second time, pH, temperature and specific conductance measurements will be recorded, followed by filling the sample containers in the designated order listed in Section 4.6 of this plan.

All purge water will be collected and containerized at any monitoring well that the facility background data suggests has contamination. Collected purge water will be routed through the on-site recovered groundwater treatment system for “disposal”.

4.5.2 Instrument Maintenance and Repair

Instruments used in field parameter measurement for this sampling program are stored on site in the CFI-Mobile office. The instrument used is a Multi-Parameter meter that measures pH, conductivity, dissolved oxygen, and temperature. The instruments are maintained in accordance with the manufacturer’s schedules and specifications described in the instrument operation manuals. The instrument manuals are stored on site in the CFI-Mobile office with each instrument. A copy of the maintenance instructions is kept with the instrument at all times. The procedures for calibration, use, and maintenance are adhered to each time the equipment is used.

In the event of an equipment malfunction or failure, the nature of the malfunction will be recorded on the Groundwater Sampling Data Form, and the instrument will be tagged for maintenance or repair by the sampling personnel. Groundwater sampling operations will cease until the malfunction is corrected or an equivalent replacement instrument is obtained, calibrated, and deemed suitable for continuation of the sampling operations. CFI maintains additional field parameter measurement instruments in nearby facilities that may be accessed if required for timely resumption of the groundwater sampling activities.

4.6 Sample Collection

Groundwater sample collection at the CFI-Mobile facility is accomplished using various methods according to the design and purpose of the well. The wells at the CFI-Mobile facility can be described using the following general categories:

1. Active groundwater recovery wells with dedicated electric submersible pumps;
2. Inactive groundwater recovery wells with dedicated electric submersible pumps;
3. Active groundwater recovery wells with dedicated air-lift pumps;
4. Inactive groundwater recovery wells with dedicated air-lift pumps;
5. Groundwater monitoring wells with dedicated (remotely stored) PVC electric submersible pumps and disposable bailers.

Active groundwater recovery wells with dedicated electric submersible pumps and dedicated air-lift pumps are sampled by filling the appropriate containers from a valve installed within the pump's discharge line. Care is taken to reduce the flow of the groundwater through the valve to allow a slow, non-turbulent flow (less than 100 ml/minute) into the sample container(s).

Inactive groundwater recovery wells with dedicated electric submersible pumps are sampled in the same manner as the active recovery wells, however the pumps in these wells are activated only for the purging and sampling procedure. Prior to sampling, the pumps are allowed to run for a period of time necessary to obtain flow rate and

stabilization parameter information and calculate the time necessary to complete the purging procedure.

Inactive groundwater recovery or monitoring wells containing dedicated air-lift pumps are sampled by connecting a bottle of compressed nitrogen to the air line to activate the pump for the purging and sampling procedure. The nitrogen is used as a source of inert gas in order to prevent possible cross contamination from outside air or the air compressor components. Samples are collected in the same manner as active wells containing air-lift pumps, i.e., through an in-line valve opened to the point where a slow, non-turbulent flow is achieved (less than 100 ml/min).

Monitoring wells that contain no dedicated pumps installed in them are purged with remote, dedicated, Geosquirt™ 12-volt, submersible, plastic and stainless steel, centrifugal pumps capable of flow rates up to 2.5 gallons per minute. These dedicated purge pumps are stored in individual plastic containers inside the CFI-Mobile storeroom. The containers are labeled with the monitoring well designation for which each pump is dedicated. Upon completion of the purging and field parameter measurement process and removal of the purge pump, sampling of each of these wells is accomplished with a disposable PVC bailer. Each bailer is equipped with a bottom filling inlet and check valve assembly and a length of new nylon cord. Samples are collected by slowly lowering the bailer into the water column and allowing the bailer to fill gently. Upon retrieval of the bailer, the groundwater is poured slowly into the appropriate sample containers in a manner as to minimize turbulence.

Groundwater samples will be collected by filling the appropriate sample containers listed in Table P-5 directly from the dedicated pump discharge line or from the dedicated bailer as appropriate. Extreme care will be taken to minimize agitation of the sample during the transfer. The sample containers will be completely filled and sealed.

A general sampling order to be followed is presented below:

1. Volatile Organics;
2. Extractable Organics;
3. Metals; and
4. Other Constituents.

Immediately following collection, the groundwater samples will be placed in plastic bags and will be stored in ice chests containing ice or ice packs for shipment to the laboratory.

Any ice chests to be shipped will be strapped with packing tape to prevent opening during shipment. Custody seals will be placed on each ice chest to ensure the integrity of the samples during shipment. Chain-of-custody forms will be completed and placed in a sealable plastic bag and taped to the inside of the cooler lid for shipment or transport with the samples.

4.7 Field Analysis

Prior to analyzing each sample, the appropriate equipment will be calibrated, as necessary, according to the manufacturer's specifications and consistent with procedures outlined in Test Methods For Evaluating Solid Waste - Physical/Chemical Methods (SW-846). Measurements of pH, temperature and specific conductance will be performed in the field at the time of sampling. Subsequent to well evacuation, approximately one half-gallon of sample will be placed in a clean, glass container. The field tests performed on this sample. Values will be recorded on the Groundwater Sampling Data Form (Figure P-2).

Under no circumstance will monitoring probes be placed in the groundwater sample containers which will be submitted for laboratory analysis. Field measurements will not be performed on samples with non aqueous phase oily materials that may render the monitoring equipment useless for additional measurements. If encountered, this observation and justification for omitting the field parameter measurements will be thoroughly recorded on the Groundwater Sampling Data Form.

4.8 Equipment Decontamination Procedures

Equipment decontamination procedures will be accomplished in accordance with USEPA Region 4 LSASD requirements listed in Appendix B and Appendix C. These sections of the LSASD are included in this work plan as Exhibit P-1 for reference.

For field decontamination of large pieces of equipment, a decontamination pad will be constructed in accordance with LSASD requirements. The decontamination pad at the CFI-Mobile facility will be located adjacent or within (as practicable) the impermeable, bermed groundwater treatment unit to allow the fluids collected to be pumped into the treatment stream for remediation of any site related contaminants.

5.0 SAMPLE PRESERVATION, SHIPMENT AND ANALYSIS

5.1 Sample Preservation

Many of the chemical constituents and physiochemical parameters to be measured in the groundwater are not chemically stable and can be modified by processes such as microbiologic activity, degassing, hydrolysis, and sorption prior to analysis. Therefore, samples will not be exposed to excessive heat or sunlight in the field and the appropriate preservation will be used. Table P-5 summarizes the sample container and preservation requirements that will be followed.

5.2 Sample Shipment

After the samples have been collected, they will be placed in sealable plastic bags and will be stored on ice or ice packs for shipment to the laboratory by CFI representatives or by an overnight courier. The ice chests that will be transported or shipped from the site will be strapped with packing tape to prevent opening during shipment and custody seals will be attached to ensure integrity of the sample. A typical sample container label is presented as Figure P-3. Shipment of the samples to the laboratory will be performed with as few transfers as possible. All samples will remain cooled at 4˚C during shipment.

5.3 Sample Analysis and Laboratory Designation

The groundwater samples will be analyzed for the parameters listed in Table P-2 at the frequencies specified in Section 3.0. The designated laboratory for the sampling program at CFI-Mobile is Micro-Methods Laboratory, Inc. (Micro-Methods) located in Ocean Springs, MS.

The sample analysis methods indicated in Table P-6 are EPA approved and will be implemented with appropriate quality assurance/quality control procedures. Any deviation from an approved EPA method will be noted in the analytical report. Holding times for each parameter are specified in Table P-6.

5.4 Sample Containers

All groundwater samples will be placed in pre-cleaned containers supplied by the contract laboratory. These sample containers will be cleaned by the laboratory according to the laboratory's decontamination procedures. All preservatives will be added to the sample containers by the laboratory prior to shipment.

5.5 Quality Assurance Samples

To ensure an appropriate level of quality assurance and quality control in the sampling and analysis program at the CFI-Mobile facility, a number of quality assurance samples will be collected and analyzed. The quality assurance samples will include trip blanks and duplicate samples using the following rationale:

- **Trip blanks** - A laboratory-supplied trip blank, consisting of a set of volatile organic analysis containers (40 mL vials) filled with analyte-free water will accompany each cooler of samples scheduled for volatile organic compound (VOC) analysis. The trip blanks will be handled and treated in the same manner as the investigative samples collected for VOC analysis, and will be analyzed along with the samples in the same batch of samples transported in the same cooler. The trip blanks analyzed will evaluate whether the sample container transportation process may have affected the analytical result.

- **Duplicate/Replicate Samples** - To evaluate the repeatability of the analytical laboratory techniques and results, duplicate samples will be collected for each requested analytical parameter at the rate of one per sampling day or at a rate of 10% of the samples collected, whichever is greater. The duplicate samples will be collected in the same manner as the original sample, and will be labeled to conceal the identity of the monitoring well sampled (i.e., a "blind" duplicate).

In addition to the quality assurance samples described above, other quality assurance samples may be collected if necessary or required. The additional quality assurance samples and the rationale for their collection and analysis is described below:

- **Field Equipment Blanks** - The field sampling measures employed at the CFI-Mobile facility are designed specifically to avoid the necessity for decontamination of field equipment that would require the implementation of field equipment blanks to check for possible cross contamination of samples. CFI-Mobile accomplishes this through the use of dedicated sampling equipment for each monitoring well identified in this sampling program. Therefore, for routine monitoring well sampling the use of field equipment blanks will not be required. However, in cases where sampling with non-dedicated or previously used equipment may be implemented, an equipment rinsate blank will be required to be collected at the rate of one per sampling day or at a rate of 10% of the samples collected, whichever is greater. The equipment blank will be collected for VOC analysis only, and will be collected after standard field cleaning procedures have been accomplished in accordance with the EISOPQAM measures stipulated in Exhibit P-1. The field equipment blank will be collected in accordance with Section 5.13.10 of the EISOPQAM, by obtaining a sample of analyte free water poured over the surface of the cleaned piece of equipment.
- **Decontamination Water Samples** - As CFI-Mobile operates a groundwater treatment system capable of reducing the site contaminants to non-detectable levels as documented in the remediation system performance reports, decontamination water collected as a result of field cleaning operations will be transferred or pumped into the collection system of the groundwater treatment unit and treated along with the site contaminants collected in the groundwater recovery system. Any solid matter collected as a result of field decontamination operations will be transferred to the on-site Corrective Action Management Unit (CAMU) for treatment along with excavated soils from site cleanup operations or disposed at an appropriate disposal facility.

6.0 RECORD KEEPING

6.1 Sample Labels

Sample labels, which will be provided by the laboratory, will be used to prevent mis-identification of the samples. Prior to the delivery of the sample containers to CFI, the laboratory will identify, on the pre-affixed label, the analysis to be performed and the preservative included therein. The labels will be filled out at the time of collection using waterproof ink. The following information will be recorded on the labels:

1. Sample identification number;
2. Name of collector and company;
3. Date and time of collection;
4. Facility identification;
5. Preservative; and
6. Analysis to be performed.

The information contained in a typical sample label is presented as Figure P-3.

6.2 Groundwater Sampling Data Form

CFI will maintain a Groundwater Sampling Data Form that will be completed at the time of sampling. This form will provide a source of documentation to indicate that sampling requirements have been fulfilled and will provide a permanent record of field measurements, conditions, and observations. A Groundwater Sampling Data Form is presented as Figure P-2.

6.3 Chain-of-Custody

The sampler will complete the Chain-of-Custody form(s) to establish the documentation necessary to trace sample possession from the time of collection to the time of analysis. A typical Chain-of-Custody form is presented as Figure P-4. The field sampler will be responsible for the custody and care of collected samples until the containers have been transferred to the custody of the laboratory. At the time of sample collection, the chain-

of-custody form will be initiated by the field sampler. The form will be filled out in legible handwriting in ink and will be transported to the laboratory with the samples to be analyzed.

7.0 REPORTING

Groundwater monitoring data from the site's monitoring wells will be reported to the Regional Administrator in accordance with the applicable requirements of ADEM Administrative Code Rule 335-14-5-.06(8), 335-14-5-.06(9), 335-14-5-.06(10), and 335-14-5-.06(11).

7.1 Data Evaluation

When applicable, data evaluation procedures will consist of one of the statistical methodologies outlined within the ADEM Administrative Code Rule 335-14-5-.06(8). A description of the statistical methods (selected from approved methodologies listed) and associated procedures utilized to evaluate collected data will be provided within groundwater monitoring reports. Should CFI consider alternate statistical methods to evaluate data (not specified within ADEM Administrative Code Rule 335-14-5-.06(8)), CFI will recommend the alternate methodology to ADEM through correspondence and implement the recommended statistical procedures following ADEM approval.

7.2. Report

CFI will submit an annual groundwater monitoring report for the Mobile facility that will include the following information:

- The direction and rate of groundwater flow for the Upper Aquifer and Lower Aquifer;
- Monitoring data demonstrating the effectiveness of the Corrective Action Program;
- Routine groundwater monitoring data;
- An evaluation of the contaminant trend in monitor wells exhibiting groundwater contamination to determine if the concentration has increased or decreased;
- Copies of all original laboratory analytical reports with completed Chain-of-Custody forms;

- Maps illustrating the groundwater flow direction in the upper and lower aquifer zones;
- Plume delineation maps with the current dimensional interpretation;
- Trend plots and graphs illustrating concentration increases and decreases over time; and
- Legible copies of the Groundwater Sampling Data Forms.

8.0 MONITORING WELL CONSTRUCTION AND INSTALLATION

Construction techniques for the installation of the groundwater monitoring system at the Mobile facility are presented in the following sections. These construction techniques will be applied during the installation of the post-closure, monitoring well system and future replacement wells, if required. A typical construction diagram for an Upper Aquifer monitoring well is provided as Figure P-5. A typical construction diagram for a Lower Aquifer monitoring well is presented as Figure P-6. All well construction, installation, and abandonment procedures will follow the Alabama Environmental Investigation and Remediation Guidance Document (AEIRG) revision 4.0, dated February 2017.

8.1 Materials

The well casing, end plugs and caps for the CFI-Mobile groundwater monitoring system will consist of Schedule 5 Type 304 stainless steel with male and female, flush-thread, end fittings. The well screen will be the same diameter as the well casing and will consist of 0.010-inch (#10 slot) continuous, V-slot, Type 304 stainless steel with male and female, flush-thread, end fittings. Groundwater monitoring wells will typically be "2-inch diameter" wells. The typical monitoring well screen will be the "2P**" pipe size, "W90 Construction" type (2.41 in. OD x 1.99 in. ID) as indicated on the US Filtration & Separations Small Diameter Well Screens specification sheet in Exhibit P-3.

Stainless steel centralizers will be used during the construction of all of the Lower Aquifer wells. Centralizers will be the "clamp-on" type, manufactured from Type 304 stainless steel.

Surface isolation casing, if required, will be 10-inch diameter, carbon steel. The surface isolation casing will be installed into a competent clay formation and grouted using the tremie method from the bottom to the top on the exterior (annulus) and interior of the casing. After the grout surrounding the casing has hardened for a minimum of 24 hours, the interior of the casing will be re-drilled to install a 2-inch diameter monitoring well screen and casing well into the target formation.

The sand pack will consist of rounded filter sand of 20/40 grading, manufactured specifically for the intended purpose. The sand pack will be installed using the tremie method to ensure the sand completely encompasses the well screen and no bridging has occurred in the installation. A weighted tape will be used to continually check the depth and progress of the sand pack installation.

An approximately two-foot thick bentonite well seal will be installed using 1/4-inch diameter pellets that are manufactured of basic sodium bentonite. The sodium bentonite pellets will be hydrated with tap water or formation water and allowed to continue hydration for approximately 24 hours prior to the introduction of the grout material described below.

Cement/bentonite grout will be composed of Type I Portland cement with not more than 9 gallons of water added per 94 pounds of cement. (13.5# mix.). To this mixture, 3% by weight of basic bentonite gel will be added and thoroughly mixed. The grout will be installed via the tremie method from the bottom to the top of the well casing.

8.2 Soil Borings

Soil borings will be drilled using either the rotary wash, solid-stem auger, or hollow-stem auger drilling method(s). The rotary-wash drilling method will be used for all monitoring wells completed in the deeper zone. All of the drilling equipment and tools will be steam cleaned and rig pumps will be flushed with potable water prior to mobilizing on site and prior to initiating drilling activities or returning to any boring or well location.

Prior to initiating drilling at each borehole, the ground surface around the proposed location will be cleared of any brush or other natural organics and, if present, any ponded surface water will be drained. A carbon-steel surface casing will then be pushed into the ground one (1) to two (2) feet, with no less than six (6) inches of stick-up.

Split-spoon soil samples will be collected continuously to a maximum depth of 50 feet. Below 50 feet, the samples will be collected on five-foot centers or whenever strata changes are noted. All of the samples will be logged by an experienced geologist or engineer. Each soil sample will be visually described in accordance with the Unified Soil

Classification System and any evidence of contamination will be clearly noted on the boring log.

If shallow (Upper Aquifer) contamination is encountered during the installation of the Lower Aquifer monitoring wells, a carbon-steel, surface-isolation casing will be installed from the ground surface and will be seated at least one foot (12-inches) into the clay aquitard that separates the Upper and Lower Aquifer. The surface isolation casing will be pushed into the clay layer and the area between the casing and the borehole will be grouted to the ground surface with cement grout. Care will be exercised not to fully penetrate the clay aquitard with surface isolation casing.

The casing grout will be allowed to cure for a minimum of 24 hours prior to further advancing the borehole. After the grout has cured, the casing interior will be washed with clean water to remove soil and mud. Circulation of clean water will continue until clear water is returned. Before commencing with the drilling activities, all of the drilling equipment, tools and pumps will be decontaminated in accordance with Section 8.4. Contaminated water and cuttings that may be generated, will either be treated on-site through the active groundwater treatment system and the CAMU (for soils, if the CAMU is active), or will be drummed for off-site disposal at an approved disposal facility.

8.3 Well Installation

The geologist or engineer will determine in the field where to terminate the boring and where to set the well screen, based on the boring log. Prior to installing the well casing, the entire length of the boring will be reamed to the appropriate diameter to accommodate the well screen and the sand pack. After completion of the reaming, the drilling fluid will be removed from the borehole using clean water. Slow circulation of clean water will continue until returns are clear.

All well material will be steam cleaned prior to assembly. The well screen and casing will be assembled (or partially assembled) on a portable pipe rack or in some similarly clean location. The screen length will correspond to, or will be slightly less than, the thickness of the monitored zone. The bottom of the screen will be placed within zero (0) to one (1) foot above the bottom of the monitored zone. Stainless-steel centralizers will be placed

near the end plug or the sump and will also be placed five (5) feet above the top of the well screen. Metal or PVC centralizers will be placed every fifteen (15) feet thereafter. There shall be a minimum of two (2) centralizers on each well. Care will be exercised to keep all well construction materials clean and free of dirt, oil, grease and other extraneous contaminants prior to and during installation. Clean water will be gently circulated through the assembled well after it has been placed into the borehole.

The sand pack will be placed after the well pipe has been installed. The sand pack will extend from the bottom of the borehole to one to three feet above the top of the screen. The sand will be slowly placed into the annular space to prevent bridging. Two feet of bentonite pellets will be installed on top of the sand pack. The depths to the top of the sand and bentonite plug will be determined with a weighted measuring tape. The remaining annular space will be tremie grouted from the top of the bentonite plug to the ground surface after allowing approximately 24 hours for hydration of the bentonite. Pumping of grout will continue until a thick grout is returned to the surface.

8.4 Drill Rig Decontamination

To prevent cross contamination between boreholes, the drill rig will be decontaminated at the following times during the course of the project:

- Upon arrival at the site;
- Prior to initiating a new boring or returning to a partially completed boring; and
- Prior to leaving the site.

Decontamination will be performed in accordance with LSASD procedures, and will generally consist of steam cleaning of the rear of the drill rig (table, tires, bottom of the mast, etc.), the mud pit, the surface casing, all of the unclean drill stem (inside and outside), and all of the down-hole tools. Clean water will also be circulated through the pump and hose until it runs clear.

8.5 Well Development and Testing

Each well will be allowed to set for a minimum of 48 hours after grouting prior to beginning well development. The wells will be developed using air-lift techniques to ensure that the following completion criteria are satisfied: 1) any remaining drilling fluids introduced into the well are removed, 2) hydraulic contact is established between the well bore and the formation, and 3) the formation surrounding the screen has been stabilized. Development will continue until clear formation water is pumped from the wells, and stabilization criteria have been met for three (3) consecutive readings over several minutes. The stabilization criteria will include pH (≤0.1 Standard units), Specific Conductance (≤ 10%), and turbidity (<5 NTUs). If the stabilization parameters are not met after initial development efforts on a well, the well development process may be repeated as necessary to attempt to achieve compliance with the field parameter criteria. As the formation may not yield turbidity down to the acceptable criterial even with substantial development efforts, the determination of the suitability of the well installation will rest with the project manager and field supervisor.

Slug tests will be performed on each monitoring well installed to estimate the hydraulic conductivity of the screened zone. Both falling and rising head tests will be performed. The tests may utilize water withdrawal and addition or a volume displacement method (for rising and falling-head tests, respectively). Any slug or water added to the well will be clean and free of contaminants.

8.5 Well Abandonment Procedures

When a decision is made to abandon a monitoring well, either for closure purposes or if the well construction integrity has been compromised, the borehole shall be sealed in accordance with procedures outlined in EISOPQAM Section 6.9, and in general accordance with ADEM Administrative Code R.335-9-1.06 (g). For shallow monitoring wells, abandonment may be accomplished by either over-drilling the well casing and borehole then filling the clean borehole with the appropriate grout material, or in the case of deep or large diameter monitoring wells the well screen and casing will be pressure grouted from the bottom to the top using the tremie method.

TABLES

TABLE P-1
GROUNDWATER MONITORING AND REMEDIATION WELL CONSTRUCTION SUMMARY
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

Well Designation	Top of Casing (ft-msl)	Total Depth (ft-bls)	Screened Interval Elevation (ft-msl)	Aquifer	Use	Casing (Diameter)	Casing Material
A-1	14.05	32.62	-4.4 to -14.4	UA	R/I	4	SS
A-2	16.16	36.23	0 to -20	UA	R/I	4	SS
A-3	14.77	36.35	0.2 to -19.8	UA	R/I	6	SS
A-4	13.48	31.10	-4.3 to -14.3	UA	R/I	4	SS
A-5	16.60	34.64	+4.6 to -15.4	UA	R/I	6	SS
A-6	14.87	28.97	-1.6 to -11.6	UA	R/I	4	SS
AS-1*	16.72	19.00	-3.11 to -6.11	UA	A	1	SS
AS-2*	18.68	23.00	-4.93 to -7.93	UA	A	1	SS
AS-3**	17.33	29.00	-12.78 to -15.78	UA	R	1	SS
AS-4**	16.80	29.00	-13.13 to -16.13	UA	R	1	SS
AS-5*	19.51	32.00	-14.0 to -17.0	UA	A	1	SS
AS-6*	20.85	29.00	-9.75 to -11.75	UA	A	1	SS
AS-7*	17.65	30.00	-13.8 to -16.8	UA	A	1	SS
AS-8*	16.28	25.00	-7.08 to -10.08	UA	A	1	SS
AS-9*	16.72	25.00	-6.35 to -9.35	UA	A	1	SS
AS-10*	21.47	26.00	-7.08 to -10.08	UA	A	1	SS
DG-1A	7.24	42.20	-30.4 to -35.4	UL	P	2	PVC
E-1	16.34	32.52	-5.2 to -15.2	UA	E/R	4	SS
E-2	9.31	30.97	-15.6 to -20.6	UA	B	4	SS
GC SUMP	12.44	NA	NA	UA	R	10	HDPE
CO-7	12.41	NA	NA	UA	R	6	HDPE
CO-10	17.79	NA	NA	UA	R	6	HDPE
I-1	9.63	31.00	-11.5 to -21.5	UA	I	4	SS
I-2A	11.01	80.70	-40.0 to -69.0	UL	I	4	SS
I-3	9.93	64.80	-26.5 to -56.5	UL	I	4	SS
RC-1	11.90	33.98	-10.9 to -20.9	UA	C	4	SS
RC-1A	11.86	52.78	-30.8 to -40.8	UL	C	4	SS
RC-2	12.08	28.91	-5.2 to -15.2	UA	C/R	4	SS
RC-2A	13.38	51.21	-26.7 to -36.7	UL	C	4	SS
RC-3	9.66	28.68	-11.7 to -16.7	UA	C/R	4	SS
RC-3A	10.30	47.54	-27.1 to -37.1	UL	C	4	SS
RW-1	12.52	25.43	+6.5 to -13.5	UA	C/R	6	SS
RW-2	13.29	58.50	-25.5 to -45.5	UL	C/R	4	SS
RW-3A	15.53	60.02	-23.4 to -43.4	UL	E/R	4	SS
RW-3B	14.93	112.00	-74.9 to -94.9	LL	B/R	4	SS
RW-4	20.08	65.94	-25.2 to -45.2	UL	E/R	4	SS
RW-5	16.17	64.59	-28.5 to -48.5	UL	E/R	4	SS
RW-6	10.61	29.12	-5.9 to -15.9	UA	R	6	SS
RW-7	8.40	31.51	-12.0 to -22.0	UL / UA	R	4	SS
RW-8	4.40	44.52	-30.6 to -40.6	UL	R	4	SS
RW-8A	4.78	44.24	-30.0 to 40.0	UL	B/R	4	SS
RW-9	4.22	42.79	-27 to -37	UL	R	4	SS
RW-10	5.19	37.80	-29.6 to -39.6	UL	R	4	SS

TABLE P-1
GROUNDWATER MONITORING AND REMEDIATION WELL CONSTRUCTION SUMMARY
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

Well Designation	Top of Casing (ft-msl)	Total Depth (ft-bls)	Screened Interval Elevation (ft-msl)	Aquifer	Use	Casing (Diameter)	Casing Material
RW-11	4.90	20.33	0 to -15	UA	R	4	SS
RW-12	5.44	19.01	0.5 to -14.5	UA	R	4	SS
RW-13	4.10	21.09	-0.6 to -15.6	UA	R	4	SS
RW-18	16.60	30.00	2.81 to -12.19	UA	R	2	SS
RW-19	18.25	32.00	0.53 to -15.53	UA	R	2	SS
RW-20*	18.20	32.00	0.3 to -15.3	UA	R	2	SS
RW-21*	14.94	30.00	-1.93 to -11.93	UA	R	2	SS
RW-23*	17.77	30.00	-0.81 to -10.81	UA	R	2	SS
RW-24*	12.82	30.00	-1.18 to -16.18	UA	R	2	SS
RW-25*	17.91	30.00	4.64 to -10.36	UA	R	2	SS
RW-28*	16.73	30.00	3.78 to -11.22	UA	R	2	SS
RW-29*	8.41	30.00	-7.86 to -22.86	UL/UA	R	2	SS
RW-30*	8.20	30.00	-6.67 to -21.67	UL/UA	R	2	SS
RW-31*	5.60	30.00	-10.42 to -25.42	UL/UA	R	2	SS
RW-32*	9.45	30.00	-8.55 to -23.55	UL/UA	R	2	SS
RW-33*	15.27	30.00	-2.05 to -17.05	UA	R	2	SS
RW-34*	14.27	30.00	0.56 to -14.44	UA	R	2	SS
RW-35	6.36	51.50	-30.5 to -45.5	UL	R	4	SS
RW-36	6.18	51.50	-30.75 to -45.75	UL	R	4	SS
RW-37	6.06	51.50	-30.58 to -45.58	UL	R	4	SS
UG-1	7.26	30.95	-18 to -23	UL/UA	P	2	PVC
UG-2	8.32	22.96	-9.4 to -14.4	UL/UA	X	2	PVC
T-1	9.74	NA	NA	UA	E/R	8	HDPE
T-2	6.48	NA	NA	UA	E/R	8	HDPE
B-24	7.35	97.09	-77.8 to -92.8	LL	B	2	PVC
B-25	4.75	109.03	-88.9 to -103.9	LL	B	2	PVC
B-26	4.75	86.90	-62.2 to -82.2	IL	P	2	PVC
B-27	6.37	92.76	-60.3 to -80.3	LL	P	2	PVC
B-29	6.68	49.10	-33.3 to -43.3	UL	P	2	PVC
B-36	6.76	41.79	-24.9 to -34.9	UL	B	2	PVC
B-37	6.98	46.69	-30.1 to -40.1	UL	P	2	PVC
B-48A	4.86	44.50	-34.6 to -39.6	UL	I	4	SS
B-59A	7.79	120.01	-97.5 to -112.5	LL	P	2	SS
B-60A	6.18	85.50	-64.7 to 79.7	LL	B	4	SS
B-61	6.07	86.52	-65.6 to -80.6	LL	P	2	PVC
B-64A	5.76	62.13	-39.8 to -54.8	IL	P	2	SS
B-65	6.09	61.80	-40.4 to -55.4	IL	B	2	PVC
B-94	8.08	24.89	-7.4 to -17.4	UA	P	2	PVC
B-97	5.54	30.01	-14 to -24	UA	B	2	PVC
B-101	4.78	48.68	-39.1 to -44.1	UL	B	2	PVC
B-102	8.54	43.90	-26.1 to -36.1	UL	P	2	PVC
B-103	6.36	44.83	-29.2 to -39.2	UL	P	2	PVC

TABLE P-1
GROUNDWATER MONITORING AND REMEDIATION WELL CONSTRUCTION SUMMARY
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

Well Designation	Top of Casing (ft-msl)	Total Depth (ft-bls)	Screened Interval Elevation (ft-msl)	Aquifer	Use	Casing (Diameter)	Casing Material
B-104	6.23	19.87	-3.7 to -13.7	UA	P	2	PVC
B-108A	5.42	28.99	-18.7 to -23.7	UA	B	2	PVC
B-110	7.31	24.89	-7.9 to -17.9	UA	P	2	PVC
B-111	7.03	33.36	-15.9 to -25.9	UL	P	2	PVC
B-114	9.45	39.91	-20.6 to -30.6	UL	P	2	PVC
B-116	5.94	42.00	-25.7 to -35.7	UL	P	2	PVC
B-128	5.51	24.82	-9.5 to -19.5	UA	B	2	PVC
B-139	9.77	32.94	-13.3 to -23.3	UA	P	2	PVC
B-140	5.35	28.53	-12 to -22	UA	P	2	PVC

* - Denotes wells proposed to be decommisioned.
** - Denotes wells proposed to be converted into recovery wells. This table will be updated via minor permit modification once installed.
ft-msl - Elevation in feet relative to mean sea level
ft-bls - Feet below land surface

Aquifer:
UA - Upper Aquifer
UL - Upper portion of Lower Aquifer
IL - Intermediate portion of Lower Aquifer
LL - Lower portion of Lower Aquifer

Casing Material:
SS - Stainless Steel
PVC - Polyvinylchloride
HDPE - High Density Polyethylene

Use:
A - Air Sparger
B - Boundary
C - Compliance
E - Effectiveness
I - Injection
P - Piezometer
R - Recovery
X - Background

Notes:
RW-18 - formerly AS/RW-10
RW-19 - formerly AS/RW-8
RW-20 - formerly AS/RW-9
AS-8 - formerly RW/AS-20
AS-9 - formerly RW/AS - 22
AS-10 - formerly RW/AS-26

TABLE P-2
GROUNDWATER MONITORING PARAMETERS
Cavenham Forest Industries LLC
Mobile, Alabama

acenaphthene
p-chloro-m-cresol
2,4-dimethylphenol
2,4-dinitrophenol
trichlorophenols
2-chlorophenol
phenol
anthracene
benzene
chrysene
benzo(k)fluoranthene
Carbazole
diethyl phthalate
chromium
bis-(2-ethylhexyl)phthalate
acenaphthalene
benzo(b)fluoranthene
benzo(a)pyrene
benzo(a)anthracene
dibenz(a, h)anthracene
ethylbenzene
arsenic
phenanthrene
pyrene
2,3,4,6-tetrachlorophenol
nickel
2-Methyl naphthalene
fluorene
isophorone
lead
methylene chloride
toluene
2,4,6-trichlorophenol
di-n-octyl-phthalate
fluoranthene
naphthalene
pentachlorophenol
p-cresol
xylenes
indeno(1,2,3-c,d) pyrene
dibenzofuran
o-cresol
m-cresol

Field Parameters

Temperature, field
pH, field
Specific Conductance, field
Turbidity, field

TABLE P-3
SAMPLING EQUIPMENT CHECKLIST
Cavenham Forest Industries LLC Mobile, Alabama

EQUIPMENT

- Water level indicator
- Multi-Parameter Field Meter
- pH Meter
- Specific Conductance Meter
- Thermometer
- Hand or Mechanical Pump (with supply of tubing), or bottom filling bailer for each well, and an appropriate length of clean rope
- Appropriate number of sample containers per well
- Preservatives

Miscellaneous Items

- Distilled water
- Acetone or methanol
- Wash bottles
- Paper towels
- Plastic sheeting
- Ice chest
- Ice or freezer packs
- Sampling labels
- Sampling forms, clipboard, pen
- Chain-of-Custody forms
- Graduated bucket
- Garbage bags
- Containers for contaminated purge water and equipment contamination
- Sealable Plastic bags
- Batteries
- Cell Phone (Camera, Communication Device)

TABLE P-4
DEPTH TO WATER MEASUREMENT
Cavenham Forest Industries LLC Mobile, Alabama

If a steel measuring tape is used, the water level measurement will proceed in the following order:

- The measuring tape will be rinsed with distilled water and dried with a clean cloth.
- Chalk will be applied to the bottom two feet of the tape.
- The weighted tape will be lowered slowly down the center of the well casing.
- After the water is encountered in the well, the tape will be held at the closest even foot marker at the top of the well casing.
- The "held" measurement is recorded.
- The tape will be reeled out of the well.
- The measurement where the tape became wet is recorded.
- Depth to water is found by subtracting the "wet" measurement from the "held" measurement.
- Water level elevation relative to mean sea level is found by subtracting the depth to water from the top of casing elevation.

TABLE P-5
SAMPLE CONTAINER LIST AND PRESERVATIVES
Cavenham Forest Industries LLC
Mobile, Alabama

Container	Parameters	Preservatives
(1) 500 ml plastic or glass	pH Specific Conductance Chloride	Cool, 4°C
(2) 1000 ml amber glass	Semi-Volatile Parameters	Cool, 4°C
(2) 40 ml VOA vials	Volatile Organic Parameters	Cool, 4°C (7 day holding time) or Hydrochloric acid (14 day holding time)
(1) 500 ml plastic or glass	Metal Parameters	HNO_3

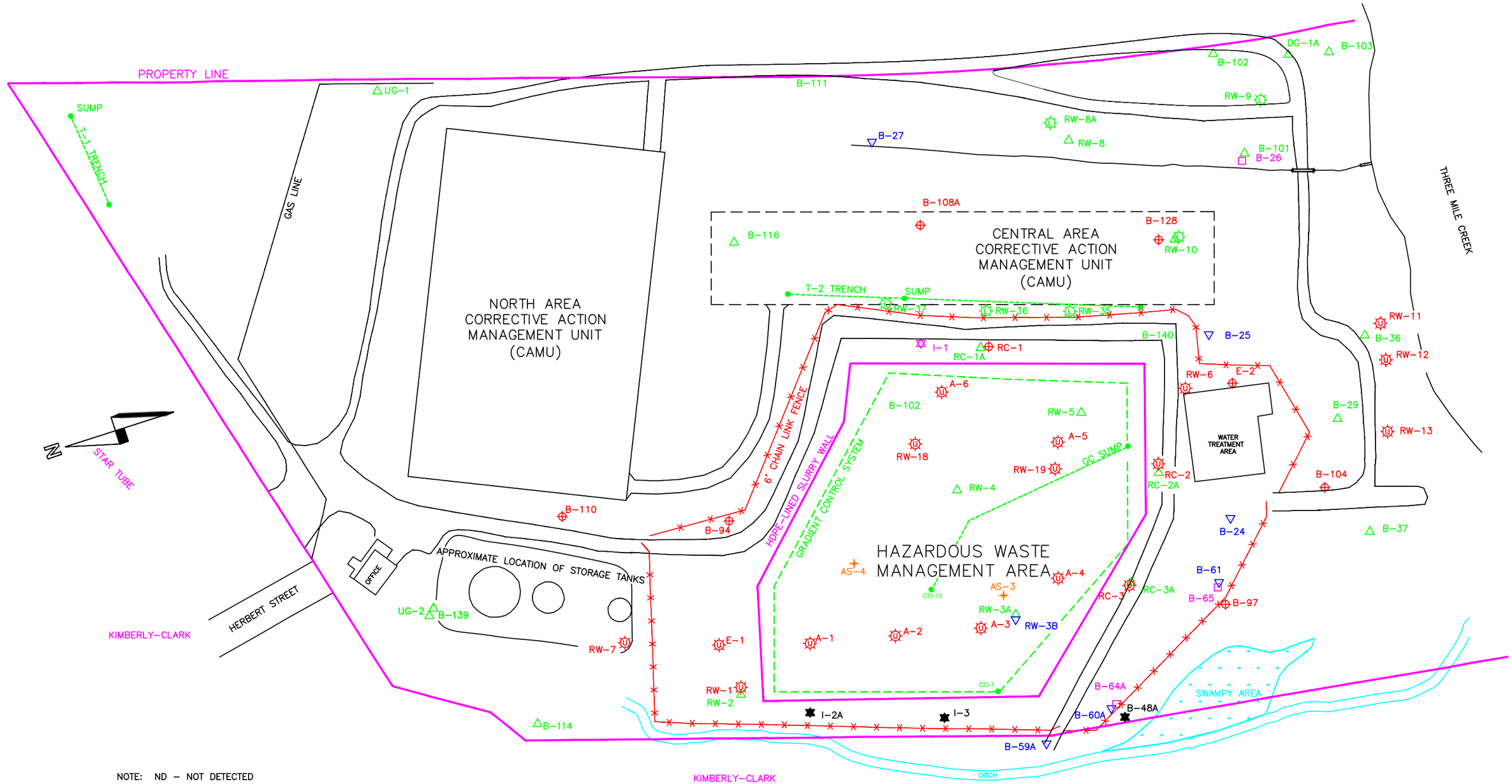
TABLE P-6
SAMPLE ANALYSIS
TECHNIQUES Cavenham Forest
Industries LLC Mobile, Alabama

Parameter	Recommended Container	Maximum Holding Time	*Analytical Method
	Water Quality Parameters		
pH	T, P, G	None	9040
Specific Conductance	T, P, G	28 days	9050
Chloride	T, P, G	28 days	9250, 9251
Metals	T, P, G	6 months	7000 series
	Waste Specific Indicator Parameters		
Volatile Organics	G	7 days (unpreserved) 14 days (preserved)	8260B
Phenolic Compounds	T, G, amber	7 days (unpreserved) 14 days (preserved)	8040, 8270C
Polynuclear Aromatics	T, G, amber	7 days (unpreserved) 14 days (preserved)	8310, 8270C

P = Plastic (polyethylene)
T = Fluorocarbon resin
G = Glass
PP = Polypropylene

*Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, SW-846

FIGURES



NOTE: ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- AIR SPARGER / PROPOSED RECOVERY WELLS
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

SCALE: 1" = 125'

125 62.5 0 62.5 125

MONITORING WELL LOCATIONS

CAVENHAM FOREST INDUSTRIES LLC – MOBILE ALABAMA

DATE: 9/5/24	APPROVED: BY: DATE:	DRAWN BY: K.R.K.	
SCALE: 1" = 125'		CAD NO. P-1 MON WELL LOC	

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE P-1

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\Collin\Fig P-1 - Mon Well Loc.dwg

FIGURE P-2
GROUNDWATER SAMPLING DATA FORM
CAVENHAM FOREST INDUSTRIES LLC

FIELD LOG

Site _____ Facility _____ Well No. _____

Collector/Operator _____

MONITORING WELL INFORMATION

Evacuation: Date/Time	_____	Method of Evacuation	_____
Top of casing to water level	_____ ft	Gallons per well volume	_____ gal
Top of casing to bottom	_____ ft	Total gallons evacuated	_____ gal
Water level after evacuation	_____ ft	Elevation, Top of casing	_____ ft
Sampling: Date/Time	_____	Elevation of well water	_____ ft
Top of casing to water level	_____ ft	Method of Sampling	_____

SAMPLE DATA

Temperature[°C]	pH	Conductivity[µS]	Dissolved Oxygen[$^{mg}/_{l}$]	Turbidity [NTU]

GENERAL INFORMATION

Weather conditions at time of sampling: _____

Sample characteristics: _____

_____

Containers and preservatives: _____

_____

Comments and observations: _____

_____

Recommendations: _____

_____

Certification:

_____

Well Casing Volumes [gal/ft]			
1 1/4"=0.077	2"=0.16	3"=0.37	4"=0.65
1 1/2"=0.10	2 1/2"=0.24	3 1/2"=0.50	6"=1.46

FIGURE P-3
SAMPLE CONTAINER LABEL (TYPICAL)
Cavenham Forest Industries Inc.
Mobile, Alabama

CAVENHAM FOREST INDUSTRIES LLC

Page____of____

Chain of Custody Record

Project No. _____
Location _____
Shipping Container ID _____
Sample(s) _____

Sample ID	Date	Time	Analysis Requested	Sample Container Description					TOTAL	Condition on Receipt Name and Date

Transporter: _____ Airbill/Invoice No. _____ Total Containers: _____

SAMPLE TRANSFER (Retain original with samples)

Relinquished by:	_____	Organization:	_____	Date:	_____
Received by:	_____	Organization:	_____	Date:	_____
Relinquished by:	_____	Organization:	_____	Date:	_____
Received by:	_____	Organization:	_____	Date:	_____
Relinquished by:	_____	Organization:	_____	Date:	_____
Received by:	_____	Organization:	_____	Date:	_____

Notes _____

FIGURE P-4

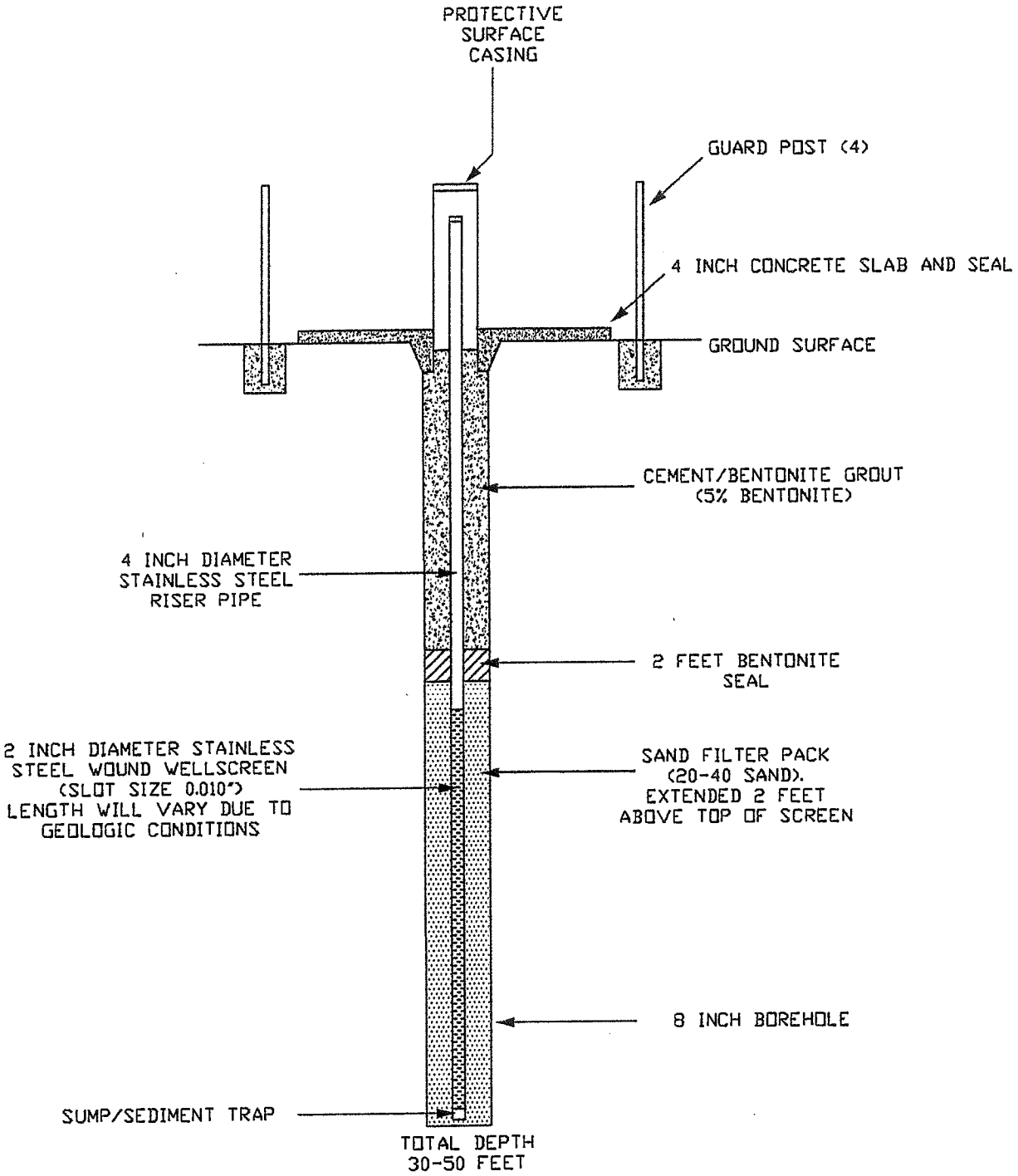


FIGURE P-5

UPPER AQUIFER MONITOR WELL CONSTRUCTION (TYPICAL)
CFI - MOBILE, ALABAMA

DATE: AUGUST 4, 2000	APPROVED BY:	DRAWN BY: JDS
SCALE: N/A		FILE: MON-WELL.DWG

ENVIRONMENTAL MANAGEMENT SERVICES
HATTIESBURG, MISSISSIPPI

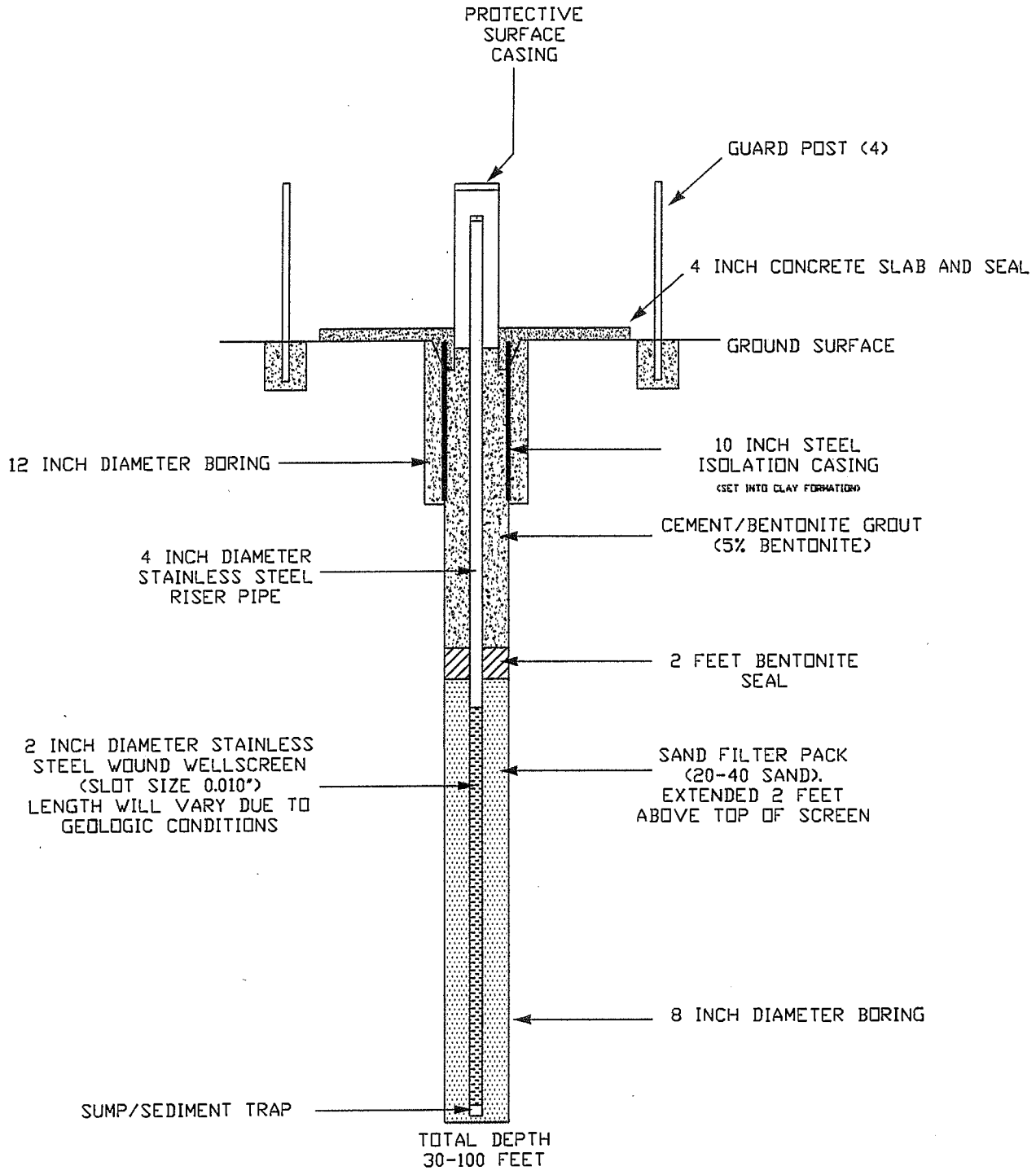


FIGURE P-6

LOWER AQUIFER MONITOR WELL CONSTRUCTION (TYPICAL) CFI - MOBILE, ALABAMA		
DATE: AUGUST 4, 2000	APPROVED BY:	DRAWN BY: JDS
SCALE: N/A		FILE: DEEP-WELL.DWG

ENVIRONMENTAL MANAGEMENT SERVICES
HATTIESBURG, MISSISSIPPI

EXHIBIT P-1

GROUNDWATER LEVEL AND WELL DEPTH MEASUREMENTS

(LSASDPROC-105-R4)

Region 4 U.S. Environmental Protection Agency Laboratory Services and Applied Science Division Athens, Georgia	
Operating Procedure	
Title: Groundwater Level and Well Depth Measurement	ID: LSASDPROC-105-R4
Issuing Authority: LSASD Field Branch Chief	
Effective Date: May 15, 2020	Review Date: May 15, 2024

Purpose

This document describes general and specific procedures, methods and considerations to be used and observed when determining water levels and depths of wells.

Scope/Application

The procedures contained in this document are to be used by field investigators to measure water levels and depths of wells. On the occasion that LSASD field investigators determine that any of the procedures described in this section are either inappropriate, inadequate or impractical and that another procedure must be used for water level or depth determination, the variant procedure(s) will be documented in the field log book and the subsequent investigation report, along with a description of the circumstances requiring its use

Uncontrolled When Printed

TABLE OF CONTENTS

Purpose 1
Scope/Application 1
1 General Information 3
1.1 Documentation/Verification 3
1.2 General Precautions 3
1.2.1 Safety 3
2 Quality Control Issues 3
3 Water Level and Depth Measurement Procedures 4
3.1 General 4
3.2 Specific Groundwater Level Measurement Techniques 5
3.3 Special Considerations for Water Level Measurements at Sites with Shallow Groundwater Gradient 5
3.4 Total Well Depth Measurement Techniques 5
3.5 Equipment Available 6
4 Establishment of Top of Casing Elevations 6
5 References 6
6 Revision History 7

Uncontrolled When Printed

1 General Information

1.1 Documentation/Verification

This procedure was prepared by persons deemed technically competent by LSASD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the LSASD Local Area Network. The Document Control Coordinator is responsible for ensuring the most recent version of the procedure is placed on the LAN and for maintaining records of review conducted prior to its issuance.

1.2 General Precautions

1.2.1 Safety

Proper safety precautions must be observed when measuring water levels in wells and determining their depths. Refer to the LSASD Safety, Health and Environmental Management Program Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASPs) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

1.2.2 Procedural Precautions

The following precautions should be considered when measuring water levels and depths of wells:

- Special care must be taken to minimize the risk of cross-contamination between wells when conducting water level and depth measurements. This is accomplished primarily by decontaminating the sounders or other measuring devices between wells, according to LSASD Operating Procedure for Field Equipment Cleaning and Decontamination, (LSASDPROC-205) and maintaining the sounders in clean environment while in transit between wells.
- Water levels and well depths measured according to these procedures should be recorded in a bound logbook dedicated to the project as per LSASD Operating Procedure for Logbooks (LSASDPROC-010). Serial numbers, property numbers or other unique identification for the water level indicator or sounder must also be recorded.

2 Quality Control Issues

There are several specific quality control issues pertinent to conducting water level and depth measurements at wells. These are:

Uncontrolled When Printed

- Devices used to measure groundwater levels should be verified annually against a National Institute of Standards and Technology (NIST) traceable measuring tape. These devices should check to within 0.01 feet per 10 feet of length with an allowable error of 0.03 feet in the first 30 feet. Before each use, these devices should be prepared according to the manufacturer's instructions (if appropriate) and checked for obvious damage. All verification and maintenance data should be documented electronically or recorded in a logbook maintained at the Field Equipment Center (FEC) as per the LSASD Operating Procedure for Equipment Inventory and Management (LSASDPROC-108). The functional check and tape length verification should be performed according to the instructions included in LSASDFORM-043, *Well Sounder Function Check and Verification,* which also includes the form for recording the required information.

- These devices should be decontaminated according to the procedures specified in LSASD Operating Procedure for Field Equipment Cleaning and Decontamination (LSASDPROC-205) prior to use at the next well.

3 Water Level and Depth Measurement Procedures

3.1 General

The measurement of the groundwater level in a well is frequently conducted in conjunction with ground water sampling to determine the phreatic water surface. This potentiometric surface measurement can be used to establish ground water direction and gradients. Groundwater level and well depth measurements are needed to determine the volume of water or drawdown in the well casing for proper purging.

All groundwater level and well depth measurements should be made relative to an established reference point on the well casing and should be documented in the field records. This reference point is usually identified by the well installer using a permanent marker for PVC wells, or by notching the top of casing with a chisel for stainless steel wells. By convention, this marking is usually placed on the north side of the top of casing. If no mark is apparent, the person performing the measurements should take both water level and depth measurements from the north side of the top of casing and note this procedure in the field log book.

To be useful for establishing groundwater gradient, the reference point should be tied in with the NAVD88 (North American Vertical Datum of 1988) or a local datum. For an isolated group of wells, it is acceptable to use an arbitrary datum common to all wells in that group.

Water levels should be allowed to equilibrate prior to measurement after removing sealing caps. There are no set guidelines and appropriate equilibration times can range from minutes to hours depending on well recharge, local geology and topography, and project objectives.

Uncontrolled When Printed

3.2 Specific Groundwater Level Measurement Techniques

Measuring the depth to the phreatic ground water surface can be accomplished by the following methods. Method accuracies are noted for each of the specific methods described below.

- Electronic Water Level Indicators – These types of instruments consist of a spool of dual conductor wire, a probe attached to the end and an indicator. When the probe comes in contact with the water, the circuit is closed and a meter light and/or audible buzzer attached to the spool will signal contact. Penlight or 9-volt batteries are normally used as a power source. Measurements should be made and recorded to the nearest 0.01 foot.

- Other Methods – There are other types of water level indicators and recorders available on the market, such as weighted steel tape, chalked tape, sliding float method, air line pressure method and automatic recording methods. These methods are primarily used for closed systems or permanent monitoring wells. Acoustic water level indicators are also available which measure water levels based on the measured return of an emitted acoustical impulse. Accuracies for these methods vary and should be evaluated before selection. Any method not capable of providing measurements to within 0.1 foot should not be used.

3.3 Special Considerations for Water Level Measurements at Sites with Shallow Groundwater Gradient

Groundwater gradients at some sites can be very shallow and if gradient and groundwater flow pattern (gradient direction) determination are part of the project objectives, it is critical that groundwater level measurements obtained from wells are as accurate as possible. Special care should be taken to allow the water level to equilibrate after removing sealing caps and the same sounder should be used for all measurements, if possible. The sounding activity should be coordinated to allow all wells to be sounded within the minimum possible time. This is particularly important in areas with potential tidal influences.

3.4 Total Well Depth Measurement Techniques

The well sounder, weighted tape or electronic water level indicators can be used to determine the total well depth. This is accomplished by lowering the tape or cable until the weighted end is felt resting on the bottom of the well. Because of tape buoyancy and weight effects encountered in deep wells with long water columns, it may be difficult to determine when the tape end is touching the bottom of the well and sediment in the bottom of the well can also make it difficult to determine total depth. Care must be taken in these situations to ensure accurate measurements. The operator may find it easier to allow the weight to touch bottom and then detect the 'tug' on the tape while lifting the weight off the well bottom. All total depth measurements must be made and recorded to the nearest 0.1 foot. As a cautionary note, when measuring well depths with the electronic water level indicators, the person performing the measurement must measure and add the length of the probe beneath the circuit closing electrodes to the depth measured to obtain the true depth. This is necessary because the tape distance markings are referenced to the electrodes, rather than the end of the probe. For electronic sounders maintained at the LSASD FEC, the sounder reel will be marked with the appropriate additional length identified as the 'TD adder'.

Uncontrolled When Printed

3.5 Equipment Available

The following equipment is available for ground water level and total depth measurements:

- Weighted steel measuring tapes
- Electronic water level indicators

4 Establishment of Top of Casing Elevations

To establish groundwater surface elevations, the measured distance from the top of casing to the water surface is subtracted from the well top of casing (TOC) elevation. Obtaining accurate TOC elevations is crucial to developing an accurate groundwater surface elevation map and determination of groundwater flow direction.

The only acceptable means of surveying well TOC elevations is differential leveling conducted to third order standards. Third order differential leveling has allowable error defined by the following formula:

$$Allowable\ Error\ (ft) = 0.05 \times \sqrt{Survey\ loop\ length\ (miles)}$$

This work must be conducted with an auto level as the leveling instrument. Surveying TOC elevations with a total station or survey-grade GPS will not provide the requisite accuracy.

When adding wells to a monitoring network, it is permissible to tie the new well elevations to the known TOC elevations of existing wells in the network. The elevations of several wells in the existing network should be checked to assure that the relative differences in elevation match the recorded elevation data.

Generally, the ground surface elevations at each well should be surveyed at the same time.

5 References

LSASD Operating Procedure for Equipment Inventory and Management, LSASDPROC-108, Most Recent Version

LSASD Operating Procedure for Field Equipment Cleaning and Decontamination, LSASDPROC-205, Most Recent Version

LSASD Operating Procedure for Logbooks, LSASDPROC-010, Most Recent Version

US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region LSASD, Athens, GA, Most Recent Version

Uncontrolled When Printed

6 Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the LSASD Document Control Coordinator on the LSASD local area network (LAN).

History	Effective Date
LSASDPROC-105-R4, *Groundwater Level and Well Depth Measurement*, replaces SESDPROC-105-R3 **General:** Corrected any typographical, grammatical, and/or editorial errors. Updated document template and naming convention. Changed references to SESD to LSASD and FSB to ASB due to organizational name changes from Agency re-alignment. Reformatted and updated naming convention.	May 15, 2020
SESDPROC-105-R3, *Groundwater Level and Well Depth Measurement*, replaces SESDPROC-105-R2 **General:** Corrected any typographical, grammatical, and/or editorial errors. **Title Page:** Author changed from Tim Simpson to Brian Striggow. Changed the Field Quality Manager from Bobby Lewis to Hunter Johnson. Updated cover page to represent LSASD reorganization. John Deatrick was not listed as the Chief of the Applied Services Branch **Section 4:** Added section on the Establishment of Well Top of Casing Elevations.	November 3, 2016
SESDPROC-105-R2, *Groundwater Level and Well Depth Measurement*, replaces SESDPROC-105-R1	January 29, 2013
SESDPROC-105-R1, *Groundwater Level and Well Depth Measurement*, replaces SESDPROC-105-R0	November 1, 2007
SESDPROC-105-R0, Groundwater Level and Well Depth Measurement, Original Issue	February 05, 2007

Uncontrolled When Printed

EXHIBIT P-2

GROUNDWATER SAMPLING

(SESDPROC-301-R4)

COPY

Region 4
U.S. Environmental Protection Agency
Science and Ecosystem Support Division
Athens, Georgia

OPERATING PROCEDURE

Title: **Groundwater Sampling**

Effective Date: April 26, 2017 | **Number:** SESDPROC-301-R4

Authors

Name: Brian Striggow
Title: Environmental Engineer
Signature: [signature] Date: 4-20-17

Approvals

Name: John Deatrick
Title: Chief, Field Services Branch
Signature: John Deatrick Date: 4/24/17

Name: Hunter Johnson
Title: Field Quality Manager, Science and Ecosystem Support Division
Signature: [signature] Date: 4/20/17

COPY

Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the SESD Document Control Coordinator on the SESD local area network (LAN).

History	Effective Date
SESDPROC-301-R4, Groundwater Sampling, replaces SESDPROC-301-R3. **General:** Corrected any typographical, grammatical, and/or editorial errors. **General:** An extensive rewrite and reorganization of material. Stronger support of low-flow methods while maintaining cautious view of minimal/no purge methods.	April 26, 2017
SESDPROC-301-R3, Groundwater Sampling, replaces SESDPROC-301-R2.	**March 6, 2013**
SESDPROC-301-R2, Groundwater Sampling, replaces SESDPROC-301-R1.	**October 28, 2011**
SESDPROC-301-R1, Groundwater Sampling, replaces SESDPROC-301-R0.	**November 1, 2007**
SESDPROC-301-R0, Groundwater Sampling, Original Issue	**February 05, 2007**

COPY

TABLE OF CONTENTS

1 GENERAL INFORMATION 5

1.1 Purpose 5
1.2 Scope/Application 5
1.3 Documentation/Verification 5
1.4 References 5
1.5 General Precautions 7
1.5.1 Safety 7
1.5.2 Procedural Precautions 8

2 SPECIAL SAMPLING CONSIDERATIONS 9

2.1 Volatile Organic Compounds (VOC) Analysis 9
2.2 Special Precautions for Trace Contaminant Groundwater Sampling 9
2.3 Sample Handling and Preservation Requirements 10
2.4 Quality Control 11
2.5 Records 11

3 GROUNDWATER PURGING AND SAMPLING 12

3.1 Overview of Purging and Sampling Strategies 12
3.2 Purging 13
3.3 Parameter Stabilization Criteria 14
3.4 Multiple-Volume Purge 16
3.4.1 Purge Volume Determination 16
3.4.2 Pumping Conditions 18
3.4.3 Stability of Chemical Parameters 18
3.4.4 Sample Collection 18
3.5 Low-Flow Method 18
3.5.1 Nomenclature 19
3.5.2 Placement of Pump Tubing or Intake 19
3.5.3 Conditions of Pumping 19
3.5.4 Stability of Chemical Parameters 19
3.5.5 Sample Collection 20
3.6 Minimum-Purge and No-Purge Sampling 20
3.6.1 Minimum Purge Sampling 21
3.6.2 Passive Diffusion Bags 21
3.6.3 HydraSleevesTM 21
3.6.4 Snap Samplers 22
3.7 Equipment Considerations 22
3.7.1 Use of Peristaltic Pumps 22
3.7.2 Use of Submersible Centrifugal Pumps 25
3.7.3 Use of Bailers 25
3.7.4 Use of Bladder Pumps 26
3.7.5 Use of Inertial Pumps 26

COPY

3.8 Wells With In-Place Plumbing 27
3.8.1 Continuously Running Pumps 27
3.8.2 Intermittently or Infrequently Running Pumps 28
3.9 Temporary Monitoring Wells 28
3.9.1 General Considerations 28
3.9.2 Development of Temporary Wells 28
3.9.3 Decommissioning of Temporary Wells 29
3.9.4 Other Considerations for Direct-Push Groundwater Sampling 30
3.10 Wells Purged to Dryness 30

4 ADDITIONAL PURGING AND SAMPLING CONSIDERATIONS 31

4.1 Field Care of Purging Equipment 31
4.2 Investigation Derived Waste 31
4.3 Sample Preservation 31
4.4 Special Sample Collection Procedures 31
4.4.1 Trace Organic Compounds and Metals 31
4.4.2 Order of Sampling with Respect to Analytes 32
4.5 Filtering 32
4.6 Bacterial Sampling 33
4.7 Specific Sampling Equipment Quality Assurance Techniques 34
4.8 Auxiliary Data Collection 34
4.9 Well Development 34

COPY

1 General Information

1.1 Purpose

This document describes general and specific procedures, methods and considerations to be used and observed when collecting groundwater samples for field screening or laboratory analysis.

1.2 Scope/Application

The procedures contained in this document are to be used by field personnel when collecting and handling groundwater samples in the field. On the occasion that SESD field personnel determine that any of the procedures described are either inappropriate, inadequate or impractical and that another procedure must be used to obtain a groundwater sample, the variant procedure will be documented in the field logbook, along with a description of the circumstances requiring its use. Mention of trade names or commercial products in this operating procedure does not constitute endorsement or recommendation for use.

1.3 Documentation/Verification

This procedure was prepared by persons deemed technically competent by SESD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the SESD Local Area Network (LAN). The Document Control Coordinator (DCC) is responsible for ensuring the most recent version of the procedure is placed on the LAN and for maintaining records of review conducted prior to its issuance.

1.4 References

International Air Transport Authority (IATA). Dangerous Goods Regulations, Most Recent Version

Interstate Technology & Regulatory Council, Technology Overview of Passive Sampler Technologies, Prepared by The Interstate Technology & Regulatory Council Diffusion Sampler Team, March 2006.

Nielsen, David. *Practical Handbook of Environmental Site Characterization and Ground-Water Monitoring*. 2nd ed. Boca Raton, FL: Taylor&Francis, 2006. Print.

Puls, Robert W., and Michael J. Barcelona. 1989. Filtration of Ground Water Samples for Metals Analysis. Hazardous Waste and Hazardous Materials 6(4), pp.385-393.

COPY

Puls, Robert W., Don A. Clark, and Bert Bledsoe. 1992. Metals in Ground Water: Sampling Artifacts and Reproducibility. Hazardous Waste and Hazardous Materials 9(2), pp. 149-162.

SESD Guidance Document, Design and Installation of Monitoring Wells, SESDGUID-001, Most Recent Version

SESD Operating Procedure for Control of Records, SESDPROC-002, Most Recent Version

SESD Operating Procedure for Sample and Evidence Management, SESDPROC-005, Most Recent Version

SESD Operating Procedure for Logbooks, SESDPROC-010, Most Recent Version

SESD Operating Procedure for Field Sampling Quality Control, SESDPROC-011, Most Recent Version

SESD Operating Procedure for Field pH Measurement, SESDPROC-100, Most Recent Version

SESD Operating Procedure for Field Specific Conductance Measurement, SESDPROC-101, Most Recent Version

SESD Operating Procedure for Field Temperature Measurement, SESDPROC-102, Most Recent Version

SESD Operating Procedure for Field Turbidity Measurement, SESDPROC-103, Most Recent Version

SESD Operating Procedure for Groundwater Level and Well Depth Measurement, SESDPROC-105, Most Recent Version

SESD Operating Procedure for Management of Investigation Derived Waste, SESDROC-202, Most Recent Version

SESD Operating Procedure for Pump Operation, SESDPROC-203, Most Recent Version

SESD Operating Procedure for Field Equipment Cleaning and Decontamination, SESDPROC-205, Most Recent Version

SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC, SESDPROC-206, Most Recent Version

COPY

SESD Operating Procedure for Potable Water Supply Sampling, SESDPROC-305, Most Recent Version

United States Environmental Protection Agency (US EPA). 1975. Handbook for Evaluating Water Bacteriological Laboratories. Office of Research and Development (ORD), Municipal Environmental Research Laboratory, Cincinnati, Ohio.

US EPA. 1977. Sampling for Organic Chemicals and Microorganisms in the Subsurface. EPA-600/2-77/176.

US EPA. 1978. Microbiological Methods for Monitoring the Environment, Water and Wastes. ORD, Municipal Environmental Research Laboratory, Cincinnati, Ohio.

US EPA. 1981. "Final Regulation Package for Compliance with DOT Regulations in the Shipment of Environmental Laboratory Samples," Memo from David Weitzman, Work Group Chairman, Office of Occupational Health and Safety (PM-273), April 13, 1981.

US EPA. 1995. Ground Water Sampling - A Workshop Summary. Proceedings from the Dallas, Texas November 30 – December 2, 1993 Workshop. ORD, Robert S. Kerr Environmental Research Laboratory. EPA/600/R-94/205, January 1995.

US EPA 1996. Ground Water Issue. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. ORD, Robert W. Puls and Micael Barcelona. EPA/540/S-95/504, April 1996

US EPA. Analytical Services Branch Laboratory Operations and Quality Assurance Manual. Region 4 SESD, Athens, GA, Most Recent Version

US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 SESD, Athens, GA, Most Recent Version

Varljen, M., Barcelona, M., Obereiner, J., & Kaminski, D. (2006). Numerical simulations to assess the monitoring zone achieved during low-flow purging and sampling. *Ground Water Monitoring and Remediation*, 26(1), 44-52.

1.5 General Precautions

1.5.1 Safety

Proper safety precautions must be observed when collecting groundwater samples. Refer to the SESD Safety, Health and Environmental Management Program (SHEMP) Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASP) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. The reader should address chemicals that pose specific toxicity or safety concerns

COPY

and follow any other relevant requirements, as appropriate.

1.5.2 Procedural Precautions

The following precautions should be considered when collecting groundwater samples.

- Special care must be taken not to contaminate samples. This includes storing samples in a secure location to preclude conditions which could alter the properties of the sample. Samples shall be custody sealed during long-term storage or shipment.
- Always sample from the anticipated cleanest, i.e., least contaminated location, to the most contaminated location. This minimizes the opportunity for cross-contamination to occur during sampling.
- Collected samples must remain in the custody of the sampler or sample custodian until the samples are relinquished to another party.
- If samples are transported by the sampler, they will remain under his/her custody or be secured until they are relinquished.
- Chain-of-custody documents shall be filled out and remain with the samples until custody is relinquished.
- Shipped samples shall conform to all U.S. Department of Transportation (DOT) rules of shipment found in Title 49 of the Code of Federal Regulations (49 CFR parts 171 to 179), and/or International Air Transportation Association (IATA) hazardous materials shipping requirements found in the current edition of IATA's Dangerous Goods Regulations.
- Documentation of field sampling is done legibly, completely, and neatly in a bound logbook.

COPY

2 Special Sampling Considerations

2.1 Volatile Organic Compounds (VOC) Analysis

Groundwater samples for VOC analysis must be collected in 40 ml glass vials with Teflon® septa. The vial may be either pre-preserved with concentrated hydrochloric acid or they may be unpreserved. Preserved samples have a two-week holding time, whereas unpreserved samples have only a seven-day holding time. In the majority of cases, the preserved vials are used to take advantage of the extended holding time. In some situations, however, it may be necessary to use the unpreserved vials. For example, if the groundwater has a high amount of dissolved limestone, i.e., is highly calcareous, there will likely be an effervescent reaction between the hydrochloric acid and the water, producing large numbers of fine bubbles and rendering the sample unacceptable. In this case, unpreserved vials should be used and arrangements confirmed with the laboratory to ensure that they can accept the unpreserved vials and meet the shorter sample holding times.

The samples should be collected with as little agitation or disturbance as possible. The vial should be filled so that there is a meniscus at the top of the vial and no bubbles or headspace should be present in the vial after it is capped. After the cap is securely tightened, the vial should be inverted and tapped on the palm or knuckle to check if any undetected bubbles are dislodged. If a bubble or bubbles are present, the vial should be topped off using a minimal amount of sample to re-establish the meniscus. Care should be taken not to flush any preservative out of the vial during topping off. If, after topping off and capping the vial, bubbles are still present, a new vial should be obtained and the sample re-collected. While the 8260 method allows for bubbles up to 6 mm at the time of analysis, dissolved or entrained gases can coalesce during shipment. Collecting VOC vials absent of bubbles is generally feasible and is a reasonable precaution.

2.2 Special Precautions for Trace Contaminant Groundwater Sampling

- Sampling equipment must be constructed of Teflon® or stainless steel materials. Bailers and pumps should be of Teflon® and stainless steel construction throughout.
- New Teflon® tubing should be used at each well, although tubing dedicated to a particular well may be reused, either after decontamination or storage in the well between sampling events. Caution is appropriate in reusing tubing where early sampling events report high concentrations of contaminants.
- A clean pair of new, non-powdered, disposable gloves will be worn each time a different location is sampled and the gloves should be donned immediately prior to sampling. The gloves should not come in contact with the media being sampled and should be changed any time during sample collection when their cleanliness is compromised.
- Sample containers for samples suspected of containing high concentrations of contaminants shall be stored separately.

COPY

- Sample collection activities shall proceed progressively from the least suspected contaminated area to the most suspected contaminated area if purging and sampling devices are to be reused. Samples of waste or highly contaminated media must not be placed in the same cooler as environmental (i.e., containing low contaminant levels) or background samples.
- If possible, one member of the field sampling team should take all the notes and photographs, fill out tags, etc., while the other members collect the samples.
- Clean plastic sheeting will be placed on the ground at each sample location to prevent or minimize contaminating sampling equipment by accidental contact with the ground surface.
- Samplers must use new, verified certified-clean disposable or non-disposable equipment cleaned according to procedures contained in SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205) or SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-206) for collection of samples for trace metals or organic compound analyses.

2.3 Sample Handling and Preservation Requirements

1. Groundwater samples will typically be collected from the discharge line of a pump or from a bailer. Efforts should be made to reduce the flow from either the pump discharge line or the bailer during sample collection to minimize sample agitation.

2. During sample collection, make sure that the pump discharge line or the bailer does not contact the sample container.

3. Place the sample into appropriate, labeled containers. Samples collected for VOC, and alkalinity analysis must be collected without headspace. All other sample containers must be filled with an allowance for ullage.

4. All samples requiring preservation must be preserved as soon as practically possible, ideally immediately at the time of sample collection. If pre-preserved VOC vials are used, these will be preserved with concentrated hydrochloric acid by Analytical Services Branch (ASB) personnel prior to departure for the field investigation. For all other chemical preservatives, SESD will use the appropriate chemical preservative generally stored in an individual single-use vial as described in the SESD Operating Procedure for Field Sampling Quality Control (SESDPROC-011). The adequacy of sample preservation will be checked after the addition of the preservative for all samples except for the samples collected for VOC analysis. If additional preservative is needed, it should be added to achieve adequate preservation. Preservation requirements for groundwater samples are found in the USEPA Region 4 Analytical Services Branch Laboratory Operations and Quality Assurance Manual (ASBLOQAM), most recent version.

COPY

5. Sample containers should be placed in an ice-filled cooler as soon as possible after filling. Ice in coolers should be in bags with minimal pooled water and the cooler should be periodically checked and replenished to maintain sample storage temperature.

2.4 Quality Control

Equipment blanks should be collected if equipment is field cleaned and re-used on-site or if necessary to document that low-level contaminants were not introduced by pumps, bailers, tubing, or other sampling equipment.

Where appropriate, a background sample upgradient of all known influences or a control sample upgradient of site influences may be indicated. Background and control samples should be collected as close to the sampled area as possible and from the same water-bearing formation as the site samples.

2.5 Records

Information generated or obtained by SESD personnel will be organized and accounted for in accordance with SESD records management procedures found in SESD Operating Procedure for Control of Records, SESDPROC-002. Field notes, recorded in a bound field logbook, will be generated, as well as chain-of-custody documentation in accordance with SESD Operating Procedure for Logbooks, SESDPROC-010 and SESD Procedure for Sample and Evidence Management, SESDPROC-005.

COPY

3 Groundwater Purging and Sampling

3.1 Overview of Purging and Sampling Strategies

Purging is the process of removing stagnant water from a well, immediately prior to sampling, causing its replacement by groundwater from the adjacent formation that is representative of aquifer conditions. Sampling is the process of obtaining, containerizing, and preserving (when required) a ground water sample after the purging process is complete. There are several approaches to well purging and sampling that may be appropriate in various circumstances or for various combinations of available equipment. They are briefly summarized below and in *Table 1, Purge and Sample Strategies with Equipment Considerations.*

The **Multiple-Volume Purge** method involves removing a minimum of three well volumes of water from the top of the water column and then sampling when the well has achieved stability of water quality parameters and adequately low turbidity. This is a traditional method and consistent results are generally obtained with samplers of varying skill. A drawback is that large volumes of purge water may be produced for large diameter or deep wells.

The **Low-Flow** method involves purging the well at a relatively low flow rate that minimizes drawdown, with the pump or tubing inlet located within the screened interval of the well. The well is sampled when water quality parameters are stable, adequately low turbidity is achieved, and the water level has achieved a stable drawdown (an unchanging water level). This method is often faster than Multiple-Volume Purge and generates less purge water. The method requires more skill and judgment on the part of the samplers.

The **Multiple-Volume Purge** method and the **Low-Flow** method can be considered equivalent for conventionally screened and filter-packed wells in that they both sample a flow-weighted average of water entering the well during pumping. However, other variables can result in differences between results with the two methods. In repeat sampling events, the sampling design should not change from one method to the other without appropriate cause. The transition should be noted in the report.

Minimum-Purge and **No-Purge** methods are based on the assumption that water within the screened interval of the well is at equilibrium with the water in the surrounding aquifer. This assumption should be carefully considered in the use of these methods and various cautions are discussed in sections below. The minimal-purge and no-purge methods are most useful for long-term monitoring and are generally inappropriate for the early stages of investigation. In some cases the methods might be used to gather screening-level data from wells that are too large to practically purge or have other sampling complications.

COPY

The **Minimum-Purge** and **No-Purge** methods collect water in the vicinity of the device under near-static conditions and are not equivalent to the multiple-volume purge and Low-Flow methods. Stratification of horizontal flow or vertical flow conditions within the well can result in non-intuitive and deceptive results. A comparison study should be conducted before transitioning a sampling program to the minimal-purge or no-purge methods.

3.2 Purging

Wells are purged to eliminate stagnant water residing in the casing and/or screen that has undergone geochemical changes or loss of VOCs. At the conclusion of purging, the desired flow-weighted average of water entering the well under pumping conditions will be available for sampling. Turbidity is often elevated during purging by the disturbance of formation materials at the borehole walls. As many contaminants (metals and many organics) will sorb to the formation particles, a sample including these particles will not represent the dissolved concentrations of the contaminants. Thus, a secondary goal of purging is to reduce the turbidity to the point that the sample will represent the dissolved concentration of contaminants.

In order to determine when a well has been adequately purged, field investigators should monitor, at a minimum, the pH, specific conductance and turbidity of the groundwater removed and the volume of water removed during purging. The measurements should be recorded in a purge table in the field logbook that includes the start time of purging, the parameter measurements at intervals during purging, estimated pumped volumes, depths to water for Low-Flow sampling, and any notes of unusual conditions. A typical purge table used for Low-Flow sampling is reproduced below.

Continuation of sample GW65-0713

INITIAL 23.33ft

TIME	pH (S.U.s)	Spec. Cond. (us/cm)	Temp. (Deg. C)	D.O. (mg/L)	D.O. (% sat.)	ORP (mV)	Turbidity (NTUs)	Water Level (Ft.)	Purge Vol. (gallons)
0930								Pump On	
0935	5.71	1065	19.6	0.77	8.7	43.9	210	24.83	1/4
1004	5.64	988	20.0	0.36	3.9	222.5	17.8	25.24	2
1026	5.63	959	20.5	0.25	2.7	98	9.95	25.18	3 1/2
1038	5.62	950	20.5	0.21	2.4	75	9.85	25.18	4
1046	5.61	946	20.8	0.21	2.4	73	6.07	25.18	4 1/2
1047								Sample Collection Time	

COPY

3.3 Parameter Stabilization Criteria

With respect to the ground water chemistry, an adequate purge is achieved when the pH and specific conductance of the ground water have stabilized and the turbidity has either stabilized or is below 10 Nephelometric Turbidity Units (NTUs) (twice the Secondary Drinking Water Standard of 5 NTUs).

Stabilization occurs when, for at least three consecutive measurements, the pH remains constant within 0.1 Standard Unit (SU) and specific conductance varies no more than 5 percent. Other parameters, such as dissolved oxygen (DO) or oxidation-reduction potential (ORP), may also be used as a purge adequacy parameter. Normal stability goals for DO are 0.2 mg/L or 10% change in saturation, whichever is greater. DO and ORP measurements must be conducted using either a flow-through cell or an over-topping cell to minimize oxygenation of the sample during measurement. A reasonable ORP stability goal is a range of 20 mV, although ORP is rarely at equilibrium in environmental media and often will not demonstrate enough stability to be used as a purge stabilization parameter. Determining the frequency of measurements has generally been left to 'Best Professional Judgement'. Care is in order, as measurements recorded at frequent intervals with low flow rates can falsely indicate stability of parameters. Several measurements should be made early in the well purge to establish the direction and magnitude of trends, which can then inform the stability decision. Stability parameters should either be not trending, or approaching an asymptote, when a stability determination is made. As a matter of practice, parameter measurements are generally made at 5-10 minute intervals.

Because the measured groundwater temperature during purging is subject to changes related to surface ambient conditions and pumping rates, its usefulness is subject to question for the purpose of determining parameter stability. As such, it has been removed from SESD's list of parameters used for stability determination. Even though temperature is not used to determine stability, it is still advisable to record the temperature of purge water as it is often used in the interpretation of other parameters.

Information on conducting the stability parameter measurements is available in the SESD Operating Procedures for Field pH Measurement (SESDPROC-100), Field Specific Conductance Measurement (SESDPROC-101), Field Temperature Measurement (SESDPROC-102), Field Turbidity Measurement (SESDPROC-103), Field Measurement of Dissolved Oxygen (SESDPROC-106) and Field Measurement of Oxidation-Reduction Potential (SESDPROC-113).

COPY

Table 1, Purge and Sample Strategies with Equipment Considerations

Purging Strategy	Purge Eqpt	Sample Eqpt	Comments
Multi-Volume Purge	----------	----------	Overall Method Comments- Advantages: Consistent results can be achieved with minimal skill level required. Common, simple equipment can be used. Disadvantages: Can result in large volumes of purge water. Can take extended periods of time with large diameter wells or long water columns.
In this traditional method, 3-5 well volumes of water are removed from the top of the water column while verifying the stability of water quality parameters. Following the well purge, the well is sampled from the top of the water column.	Bailer	Bailer	Bailers are rarely used for purging due to the effort required, the difficulty of lowering turbidity adequately, and the possibility of aerating the upper water column.
	Electric Submersible Pump	Bailer	Common multiple-volume setup when depth to water exceeds 25 feet. Abbreviated pump decontamination procedure can be used between wells.
	Electric Submersible Pump	Electric Submersible Pump	Requires full pump decontamination and new tubing at each well. In most cases the pump would be deployed to the screened interval instead to perform Low-Flow sampling.
	Peristaltic Pump	Peristaltic Pump	Common, multi-volume setup when depth to water is less than 25 feet. Special sampling techniques are required for the collection of SVOCs and VOCs.
Low-Flow methods	----------	----------	Overall Method Comments- Advantages: Lower volumes of purge water. May be faster, especially with longer water columns. Disadvantages: Requires greater skill for consistent results. Higher tubing costs than multi-volume method.
The pump or tubing inlet is placed within the screened interval and the well is purged to stable water quality parameters while maintaining stable drawdown of the water level.	Electric Submersible Pump	Electric Submersible Pump	Commonly used when depth to water exceeds 25 feet. Pump is cleaned to sample equipment standards prior to sampling each well and new or dedicated tubing used for each well. Concerns have been raised concerning VOC loss from agitation in the turbine section or from sample heating.
	Peristaltic Pump	Peristaltic Pump	Commonly used where depth to water is less than 25 feet. Special sampling techniques required for the collection of SVOCs and VOCs. Concerns have been raised concerning VOC loss from vacuum created in sample tubing.
	Bladder Pump	Bladder Pump	Least danger of VOC loss as entire sample train is under positive pressure and little sample heating occurs. Difficult to remove large volumes of water in reasonable time. Mild surging effect may keep turbidity elevated in sensitive wells.
Minimum-Purge, No-Purge Methods	----------	----------	Overall Method Comments- Advantages: Very little or no waste water. Well suited to repeat sampling events. Likely faster with lower costs. Disadvantages: Not directly equivalent to other methods. Vertical stratification or vertical flow conditions in the screened interval can result in deceptive or non-intuitive analytical results.
Predicated on the assumption that aquifer flow through the well maintains the water in the screened interval in a state equivalent to that in the aquifer. This assumption should be proven or the data qualified. Sampling is conducted with little or no purge, or by equilibrating a sampler in screened interval.	Pumps, various	Pumps, various	In the minimum-purge method, the internal volume of the sample tubing and pump is calculated. One volume of the pump and tubing is purged to flush the equipment and the well is then sampled.
	na	Passive Diffusion Bags	In most common form, a sealed water-filled polyethylene bag is allowed to equilibrate in the water column. Suitable primarily for VOCs. Generally require 2 week minimum in-situ residence time.
	na	Hydrasleeves	Collect a fixed volume of water from a specific interval. Requires duplicate samplers or redeployment for larger volumes. Sorbtion issues may bias results.
	na	Snap sampler	Deploys a sample container in the sampling interval where it is allowed to equilibrate (commonly for two weeks) before being sealed insitu by the sampler mechanism and retrieved. Limited to specific containers.

COPY

3.4 Multiple-Volume Purge

In the traditional Multiple-Volume Purge method, water is removed from the top of the water column, causing water to enter the screen and flush stagnant casing water upward to be subsequently removed. In recognition of the mixing of fresh and stagnant water in the casing section, a minimum of three well volumes is removed, at which time purging can be terminated upon parameter stabilization. Wells can be assumed to be adequately purged when five well volumes have been removed, although further purging may be conducted to meet specific goals, such as further reduction of turbidity.

3.4.1 Purge Volume Determination

Prior to initiating the purge, the amount of water standing in the water column (water inside the well riser and screen) should be determined The diameter of the well is determined and the water level and total depth of the well measured and recorded prior to inserting a pump or tubing into the well. The water level is subtracted from the total depth, providing the length of the water column. Specific methodology for obtaining these measurements is found in SESD Operating Procedure for Groundwater Level and Well Depth Measurement (SESDPROC-105).

Once this information is obtained, the volume of water to be purged can be determined using one of several methods. The well volume can be calculated using the equation:

$$V = 0.041\ d^2h$$

Where:
h = length of water column in feet
d = diameter of well in inches
V = one well volume in gallons

Alternatively, the volume of standing water in the well and the volume of three water columns may be determined using a casing volume per foot factor for the appropriate diameter well, such as *Table 2 Well Casing Diameter Volume Factors*. The water column length is multiplied by the appropriate factor in the Table 2 to determine the single well volume, three well volumes, or five well volumes for the well in question. Other acceptable methods include the use of nomographs or other equations or formulae.

COPY

TABLE 2, WELL CASING DIAMETER VOLUME FACTORS

Well Casing Diameter (in)	Reference 1 Well Volume (gallons/ft)	Minimum purge 3 Well Volumes (gallons/ft)	Maximum purge* 5 Well Volumes (gallons/ft)
0.5	0.01	0.03	0.05
0.75	0.02	0.07	0.11
1	0.04	0.12	0.20
2	0.16	0.49	0.82
3	0.37	1.1	1.8
4	0.65	2.0	3.3
5	1.0	3.1	5.1
6	1.5	4.4	7.3
7	2.0	6.0	10.0
8	2.6	7.8	13.1
9	3.3	9.9	16.5
10	4.1	12.2	20.4
11	4.9	14.8	24.7
12	5.9	17.6	29.4
13	6.9	20.7	34.5
14	8.0	24.0	40.0
15	9.2	27.5	45.9
16	10.4	31.3	52.2
18	13.2	39.7	66.1
24	23.5	70.5	118
36	52.9	159	264
48	94.0	282	470

*** See text for discussion on terminating purge at five well volumes**

An adequate purge is normally achieved when three to five well volumes have been removed. The field notes should reflect the single well volume calculations or determinations, according to one of the above methods, and a reference to the appropriate multiplication of that volume, i.e., a minimum three well volumes, clearly identified as an initial purge volume goal.

COPY

3.4.2 Pumping Conditions

The pump or tubing inlet should be located at the top of the water column. If the pump is placed deep into the water column, the water above the pump may not be removed, and the subsequent samples, particularly if collected with a bailer, may not be representative of the aquifer conditions. If the recovery rate of the well is faster than the pump rate and no observable draw down occurs, the pump should be raised until the intake is as close as possible to the top of the water column for the duration of purging. If the pump rate exceeds the recovery rate of the well, the pump or tubing will have to be lowered to accommodate the drawdown.

3.4.3 Stability of Chemical Parameters

In the multiple-volume purge method, a stability determination may be made after three well volumes have been removed. If the chemical parameters have not stabilized according to the above criteria, additional well volumes (up to a total of five well volumes) should be removed. If the parameters have not stabilized after the removal of five well volumes, it is at the discretion of the project leader whether or not to collect a sample or to continue purging. If, after five well volumes, pH and conductivity have stabilized and the turbidity is still decreasing and approaching an acceptable level, additional purging should be considered to obtain the best sample possible.

3.4.4 Sample Collection

There are several means by which sampling can proceed after adequate volume has been purged and water quality parameters have stabilized. If a submersible pump and tubing are of suitable material and cleanliness for sample collection, sampling can proceed immediately by directly filling bottles from the tubing outlet. Commonly with the multiple-volume purge method, the pump is set up and cleaned in a manner suitable only for purging. In these cases, the pump is stopped and removed from the well and sampling proceeds with a bailer per the procedure described in Section 3.6.3. The pump should have a check valve to prevent water in the pump tubing from discharging back into the well when the pump is stopped. If a peristaltic pump is used, sampling can proceed as described in Section 3.6.1.

3.5 Low-Flow Method

This method involves placing the pump or tubing inlet within the screened interval of the well and purging at a low enough rate to achieve stable drawdown and minimal depression of the water level. The well is sampled without interruption after field parameters are stable and low turbidity is achieved. In general, only water in the screened interval of the well is pumped and the stagnant water in the well casing above the screen is not removed. Wells can generally be sampled in less time with less purge volume than with the multi-volume purge method. More attention is required in the assessment of stability criteria than the multi-volume method.

COPY

3.5.1 Nomenclature

A variety of terminology has been used to describe this method by SESD and others, including: 'low flow', 'low-flow/low-volume', 'tubing-in-screen method', 'low flow/ minimal drawdown', and 'micropurge'. The current preferred SESD terminology for this method is 'Low-Flow'. As the term 'micropurge' is sometimes used to refer to minimal-purge methods and has been trademarked by a vendor, the use of 'micropurge' to describe the Low-Flow method generally introduces ambiguity and confusion and thus the use of the term is discouraged.

3.5.2 Placement of Pump Tubing or Intake

The inlet of the pump tubing or intake of the submersible pump is placed in the approximate mid-portion of the screened interval of the well. While it is often thought that particular aquifer zones can be targeted by specific pump or intake placement, for conventionally constructed screened and filter-packed monitoring wells the zone monitored is only weakly dependent on the intake placement (Varljen, Barcelona, Obereiner & Kaminski, 2006).

The pump or tubing can be placed by carefully lowering them to the bottom of the well and then withdrawing half of the screen length, plus the length of any sump sections at the bottom of the well. A drawback of this approach is that it may stir up sediment at the well bottom. An alternate approach is to lower the pump or tubing a measured distance to place it at mid-screen without touching the bottom of the well. In the case of pumps, special care should be used in lowering them slowly, especially in the screened interval, to prevent elevating turbidity needlessly by the surging action of the pump.

3.5.3 Conditions of Pumping

Prior to initiation of pumping, a properly decontaminated well sounder should be lowered into the well to measure the water level prior to and during the purging process. Ideally, there should be only a slight and stable drawdown of the water column after pumping begins. In some cases, it will be necessary for the well to drawdown a considerable distance (10 ft or more in extreme cases) to maintain a minimal usable pumping rate for sampling (100-200 ml/min). Excessive pump rates and drawdown can result in increased turbidity, or aeration of the sample if the screen is exposed. Stable drawdown is an essential condition of the Low-Flow method. If the stable drawdown condition cannot be met, then one of the other methods should be employed.

3.5.4 Stability of Chemical Parameters

As with the Multiple-Volume Purging method described, it is important that all chemical parameters be stable prior to sampling. It is common for wells to require the removal of one of more screened-interval volumes (~2 gal for a 10 ft screen in a 2" dia. well) to achieve stability. Although it is possible for wells to achieve stability with lower purge volumes, the sampler should exercise caution in making an early stability determination.

COPY

3.5.5 Sample Collection

Low-Flow sampling is implemented using a pump and tubing suitable for sampling. After making the determination of parameter stability with stable drawdown, sampling can proceed immediately. Where submersible or bladder pumps are used, sampling can proceed by directly filling bottles from the tubing outlet. Where peristaltic pumps are used, sampling can proceed per the procedure described in Section 3.6.3.

3.6 Minimum-Purge and No-Purge Sampling

The Minimum-Purge and No-Purge sampling methods are employed when it is necessary to keep purge volumes to an absolute minimum, where it is desirable to reduce long-term monitoring costs, or where large wells or other limitations prevent well purging. The underlying assumption when employing these methods is that the water within the well screen is equilibrated with the groundwater in the associated formation. This assumption should be demonstrated prior to use of these methods or the results suitably qualified. These methods are generally impractical for SESD to implement because of the common lack of hydrogeological information in early investigative phases and the necessity with some methods that the samplers be pre-deployed to allow equilibration.

Vertical flow conditions and stratification of the water column have also been known to result in deceptive and non-intuitive analytical results. The use of these methods in the early phases of investigation can easily result in misinterpretation of site conditions and plume boundaries.

Particular caution is in order in the use of these methods when any of the following conditions exist:

- Low hydraulic conductivity ($K<10^{-5}$ cm/sec)
- Low groundwater surface gradients
- Fractured bedrock
- Wells with long screened intervals
- Wells screened in materials of varying hydraulic conductivities

If it is desired to transition a long-term monitoring program to Minimum-Purge or No-Purge sampling, a pilot study should be conducted where the Minimum-Purge or No-Purge sample results are compared to the conventional methods in use. Multiple samplers may be deployed in the screened interval to help establish appropriate monitoring intervals.

These methods are in common use and for the purposes of the SESD quality system they can be considered standard, but unaccredited, procedures. Several Minimum-Purge or No-Purge procedures that might be employed are shown below. It is not the intention to recommend particular equipment or vendors, and other equipment that can accomplish the same goals may be suitable.

COPY

3.6.1 Minimum Purge Sampling

The pump or tubing inlet is deployed in the screened interval. A volume of water equal to the internal pump and tubing volume is pumped to flush the equipment. Sampling then proceeds immediately. While superficially similar to Low-Flow sampling, the results obtained in this method will be sensitive to the vertical pump or tubing inlet placement and are subject to the limitations described above.

3.6.2 Passive Diffusion Bags

The no-purge Passive Diffusion Bag (PDB) typically consists of a sealed low-density polyethylene (LDPE) bag containing deionized water. They are deployed in the screened interval of a well and allowed to equilibrate, commonly for two weeks, prior to retrieval and decanting of the water into sample containers. Many volatile organic compounds will reach equilibrium across the LDPE material, including BTEX compounds and many chlorinated solvents. Compounds showing poor equilibration across LDPE include acetone, MTBE, MIBK, and styrene. PDBs have been constructed of other materials for sampling other analytes, but the vast majority of PDB samplers are of the LDPE material. Various vendors and the Interstate Technology and Regulatory Council (ITRC) can provide additional information on these devices.

3.6.3 HydraSleevesTM

HydraSleeeves™ are no-purge grab sampling devices consisting of a closed-bottom sleeve of low-density polyethylene with a reed valve at the top. They are deployed in a collapsed state to the desired interval and fill themselves through the reed valve when pulled upward through the sampling interval. The following is a summary of their operation:

Sampler placement – A reusable weight is attached to the bottom of the sampler or the sampler is clipped to a weighted line. The HydraSleeve™ is lowered on the weighted line and placed with the top of the sampler at the bottom of the desired sampling interval. In-situ water pressure keeps the reed valve closed, preventing water from entering the sampler. The well is allowed to return to equilibrium.

Sample collection - The reed valve opens to allow filling when the sampler is moved upward faster than 1 foot per second, either in one continuous upward pull or by cycling the sampler up and down to sample a shorter interval. There is no change in water level and only minimal agitation during collection.

Sample retrieval - When the flexible sleeve is full, the reed valve closes and the sampler can be recovered without entry of extraneous overlying fluids. Samples are removed by puncturing the sleeve with the pointed discharge tube and draining the contents into containers for sampling or field parameter measurements.

COPY

Because the HydraSleeve™ is retrieved before equilibration can occur and they are constructed of non-Teflon® materials, there may be issues with sorbtion of contaminants in the use of this sampler.

3.6.4 Snap Samplers

The Snap Sampler is a patented no-purge groundwater sampling device that employs a double-end-opening bottle with "Snap" sealing end caps. The dedicated, device is deployed at the desired position in the screened interval with up to six Snap Samplers and six individual sampling bottles. The device is allowed to equilibrate in the screened interval and retrieved between 3 and 14 days after deployment. Longer deployments are possible to accommodate sampling schedules.

To operate, Snap Samplers are loaded with Snap Sampler bottles and the "Snap" caps are set into an open position. Samplers are deployed downhole with an attachment/trigger line and left to equilibrate downhole. To collect samples, the Snap Sampler bottles seal under the water surface by pulling a mechanical trigger line, or using an electric or pneumatic trigger system. The trigger releases Teflon® "Snap Caps" that seal the double-ended bottles. The end caps are designed to seal the water sample within the bottles with no headspace vapor. After the closed vial is retrieved from the well, the bottles are prepared with standard septa screw caps and labeled for laboratory submittal.

The manufacturer of the Snap Sampler provides considerable additional information on the validation and use of the device.

3.7 Equipment Considerations

Equipment choices are dictated by the purging and sampling method used, the depth to water, the quantity of water to be pumped, and quality considerations. The advantages and disadvantages of various commonly used pumps are discussed in the sections below and summarized in *Table 1, Purge and Sample Strategies with Equipment Considerations.* Additional information on the use of individual pumps is available in SESD Operating Procedure for Pump Operation, SESDPROC-203.

3.7.1 Use of Peristaltic Pumps

Peristaltic pumps are simple, inexpensive, and reliable equipment for purging and sampling where the limit of suction is not exceeded (approximately 25-30 vertical feet from the groundwater surface to the pump). When used for sampling, they should be equipped with new Teflon® tubing for each well. The flexible peristaltic pump-head tubing should also be changed between wells.

Samples for organic analyses cannot be exposed to the flexible peristaltic pump-head tubing, both due to the risk that the tubing would sorb contaminants and the propensity of this tubing to contribute organic compounds to the sample. Samples can be collected without contact with the pump-head tubing by the use of vacuum transfer caps for

COPY

analyses requiring 1 liter glass containers and the use of the 'soda-straw' method for the filling of VOC vials.

The sample containers for the more turbidity-sensitive analyses are filled first, as filling the VOC vials (and to a lesser extent the glass bottles) may disturb the well and increase turbidity. The most appropriate order of sampling with a peristaltic pump is generally to fill poly containers for metals and classical analyses, followed by glass bottles for SVOCs and associated analyses, and finally to fill 40 ml VOC vials.

The following step-by-step procedure assumes that the pump has been set up per SESD Operating Procedure for Pump Operation (SESDPROC-203) and that containers for a typical full suite of analyses will be filled. The procedure is suitable for use with either multi-volume Purge and Low-Flow methods with minor differences in the collection of VOCs:

1. Deploy the lower end of the tubing to the desired point in the well. This would be the top-of-water for the multi-volume purge method or to the mid-screen for the Low-Flow method. Connect the well tubing to the flexible pump-head tubing and connect a short piece of tubing from the pump-head tubing to a measuring bucket.

2. Turn on the pump and establish a suitable pumping rate. For the multi-volume purge method, the rate will generally be a relatively fast rate that the well will sustain without elevating turbidity. For the low-flow method the pump rate is established at a slower rate to maintain a minimal and stable drawdown level.

3. Proceed with the measurement of water quality parameters and adjust the pump rate as needed to achieve low turbidity and stable drawdown.

4. When the well purge has been determined to be sufficient, fill containers for metals and classical analyses directly from the pump outlet. There is no need to interrupt pumping. The tubing should be held at the opening of the container and should not touch the container during filling. Protect caps from dust and debris during filling.

5. After filling the containers for metals and classical analyses stop the pump. Make sure that the tubing leading into the well is secured against movement during the following operations.

6. Create a crimp in the well tubing approximately one foot from the pump and grasp the crimped tubing in one hand. It is generally most effective to create a double 'Z' crimp.

7. Cut the sample tubing between the crimp and the pump. The tightly-held crimped tubing should keep water from running back into the well. In lieu of

COPY

cutting the tubing, the well tubing can be disconnected from the pump and a short piece of tubing connected in its place.

8. Insert both free ends of the tubing into the ferrule-nut fittings of a pre-cleaned Teflon® transfer cap assembly and tighten the nuts. Attach the transfer cap assembly to the first glass container for semi-volatile analysis and securely tighten the threaded ring.

9. Turn the pump on. Very slowly release the 'Z' crimp in the sample tubing. As vacuum builds up in the sample container, water should begin to move up the sample tubing instead of back into the well. If after several minutes water has not begun moving up the tubing, check the tightness of fittings and the attachment of the cap to the bottle. Allowing water to rush back down the tubing from the 'Z' crimp can surge the well and elevate turbidity.

10. Fill the container to about halfway between the shoulder and the neck. Crimp the well tubing. Move the transfer cap to any additional bottles and repeat the filling process.

11. When finished filling bottles with the transfer cap, again crimp the tubing. Remove the well tubing from the transfer cap and reattach it to the pump. Slowly run the pump and release the crimp until water is approaching the flexible peristaltic tubing.

12. Make a kink or otherwise mark the tubing at the top of the casing in case the tubing needs to be reinserted for additional sample volume. Slowly remove the tubing from the well and coil it in one hand in loose coils. With the top end of the tubing blocked, water is retained in the tubing as it is withdrawn, much as in a capped soda straw, hence the name for this method.

13. Remove the top from a 40 ml VOC vial and position the end of the sample tubing near the top of the vial. Reverse the pump direction and turn the speed knob to its slowest position. Turn on the pump and slowly increase speed until water slowly fills the vial. Fill the vial with a slow laminar flow that does not agitate the water in the vial or entrain bubbles. Continue to fill the vial until a convex meniscus forms on the top of the vial and turn off the pump.

14. Carefully screw the septum-lid to the vial and fasten firmly. Invert the vial and tap on your knuckles to check for bubbles. Carefully add additional volume to the vial if necessary. Small bubbles are undesirable but may be unavoidable with some media, especially when using pre-preserved vials.

15. Repeat the filling process for additional vials. Avoid partially filling vials as the available water in the tubing is used. If more volume is required than that contained in the tubing, purge the remaining water from the tubing and reinsert

COPY

the tubing in the well to the level marked previously. Run the pump to refill the tubing. If performing Low-Flow sampling, run additional volume through the pump to purge any water that may have been collected from the stagnant water column.

16. Fill additional vials as needed. Be sure that any water that has contacted the flexible peristaltic tubing is not pumped into a vial.

3.7.2 Use of Submersible Centrifugal Pumps

Submersible centrifugal pumps are used in wells of 2" diameter and larger. They are especially useful where large volumes of water are to be removed or when the groundwater surface is a large distance below ground surface. Commonly used pumps are the Grundfos® Redi-Flo2, the Geotech GeoSub, and the various 'Monsoon' style pumps. Other pumps are acceptable if constructed of suitable materials.

When used with the Multiple-Volume Purge method, the pump is generally used only to purge, with sampling performed with a bailer. In this use, the pump can be used with polyethylene or other tubing or hose that will not contribute contaminants to the well. The pump and tubing is decontaminated between wells per the relevant provisions of SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205). When used in this application the pump should be equipped with a check valve to prevent water in the discharge tubing or hose from running back down into the well.

When used for Low-Flow purging and sampling the pump must be constructed of stainless steel and Teflon®. Pump cleaning at each well follows the more stringent procedures described in SESD Operating Procedure for Field Equipment Cleaning and Decontamination SESDPROC-205) for this application. The sample tubing should be either new Teflon® tubing, or tubing dedicated to each well. Dedicated tubing would ideally be cleaned between uses, but tubing stored in the well casing between uses is acceptable, although caution should be exercised where very high concentrations of contaminants have been sampled in a well.

3.7.3 Use of Bailers

Bailers are a common means of sampling when the Multiple-Volume Purge method is used. They are occasionally used for purging when other equipment is not available or has failed. As bailers surge the well on each withdrawal, it is very difficult to lower turbidity adequately during a well purge, and when used for sampling they can elevate turbidity in a well before all sample volume is collected. If not lowered carefully into the top of the water column, the agitation may strip volatile compounds. Due to the difficulties and limitations inherent in their use, other sampling or purging means should generally be given preference.

COPY

Bailers should be closed-top Teflon® bailers with Teflon® coated stainless steel leaders used with new nylon haul rope. They are lowered gently into the top of the water column, allowed to fill, and removed slowly. It is critical that bailers be slowly and gently immersed into the top of the water column, particularly during final stages of purging and during sampling, to minimize turbidity and loss of volatile organic constituents.

If the well has previously been purged with a pump, there is likely stagnant water at the top of the well that was above the pump or tubing inlet. Several bailers of water should be retrieved and discarded to assure the upper stagnant water has been removed.

When sampling, containers are filled directly by pouring from the outlet at the top of the bailer. Containers for metals analysis should be filled first in case the bailing process increases well turbidity. VOC vials should be filled carefully and slowly with a laminar flow to reduce agitation and the stripping of VOCs.

3.7.4 Use of Bladder Pumps

Bladder pumps use a source of compressed gas to compress and release a bladder straddled by check valves within the pump body. As the bladder is compressed, water is expelled out the upper check valve to the surface. When gas pressure is released, the bladder refills as well water enters the lower pump inlet. A control unit is used to control the pressure and timing of the bladder inflation gas flow.

Bladder pumps are capable of pumping from moderate depths to water, but are not capable of high flow rates. As they operate cyclically, the well is surged slightly on each cycle and it may be difficult to lower turbidity in sensitive or poorly developed wells. As the entire sample train is under positive pressure and the pumps develop little heat, they are ideal for sampling VOCs.

Prior to sampling and between each well the pumps are cleaned internally and externally per the provisions of SESD Operating Procedure for Field Decontamination (SESDPROC-205) and a new Teflon® bladder installed. New (or dedicated) Teflon® sample tubing is used at each well, although polyethylene tubing can be used for the compressed gas drive line and cleaned between each well.

3.7.5 Use of Inertial Pumps

Inertial pumps consist of a check valve which is affixed to the lower end of semi-rigid tubing. The tubing and valve are cycled up and down, allowing water to alternately be drawn into the check valve inlet and then pulled up towards the surface. Two commonly used inertial pumps are the Waterrra® pump for wells larger than 1" and the Geoprobe® Tubing Check Valve for small diameter wells. The primary use of these pumps is in well development where their near-immunity to silt is an advantage. Inertial pumps should not be used for the final well purge or for sampling as there is a low likelihood of

COPY

reducing turbidity to appropriate levels and they have the potential to strip volatiles from the water column through agitation.

To set up the pump, the check valve is screwed onto the discharge tubing where it will cut its own threads. In the case of the Waterra® pump, a surge block can also be pressed onto the check valve. The pump is lowered into the well to the screened interval and rapidly cycled up and down a distance of 3" -12". The stroke length and speed are adjusted for pumping effect. Electric actuators can be used to reduce the effort involved. The pump should be moved to different levels in the screen to surge the entire screen. The pump can occasionally be lowered to the bottom of the well to vacuum out silt. Any silt that clogs the valve is usually quickly rinsed out by the pump cycling and if the clog remains the pump is easily retrieved and redeployed.

The surging activity is usually continued until turbidity is lowered to a measurable range and cannot easily be lowered further. Further development or purging is then conducted with other pumps.

3.8 Wells With In-Place Plumbing

Wells with in-place plumbing are commonly found at municipal water treatment plants, industrial water supplies, private residences, and in other applications. Many permanent monitoring wells at active facilities are also equipped with dedicated, in-place pumps.

A permanent monitoring well with an in-place pump may be treated as other monitoring wells without pumps. Since the in-place pump is generally "hard" mounted at a pre-selected depth, it cannot be moved up or down during purging and sampling. If the pump inlet is above the screened interval, the well should be sampled using the Multiple-Volume Purge method. If the pump intake is located within the screened interval, the well can be sampled using Low-Flow procedures. Known details of pump type and construction, tubing types, pump setting depths, and any other available information about the system should be recorded in the field logbook.

In the case of the other types of wells, e.g., municipal, industrial and residential supply wells, there is typically not enough known about the construction aspects of the wells to apply the same criteria as used for monitoring wells. The volume to be purged in these situations therefore depends on several factors: whether the pumps are running continuously or intermittently and whether or not any storage/pressure tanks are located between the sampling point and the pump. The following considerations and procedures should be followed when purging wells with in-place plumbing under the conditions described.

3.8.1 Continuously Running Pumps

If the pump runs more or less continuously, no purge (other than opening a valve and allowing it to flush for a few minutes) is necessary. If a storage tank is present, a spigot,

COPY

valve or other sampling point should be found located between the pump and the storage tank. If no valve is present, locate and use the valve closest to the tank. Measurements of field parameters are recorded immediately prior to the time of sampling.

3.8.2 Intermittently or Infrequently Running Pumps

If the pump runs intermittently or infrequently, best judgment should be utilized to remove enough water from the plumbing to flush standing water from the piping and any storage tanks that might be present. Often under these conditions, 15 to 30 minutes of purging will be adequate. Measurements of pH, specific conductance, temperature and turbidity should be made and recorded at intervals during the purge and the final measurements made at the time of sampling should be considered the measurements of record for the event.

3.9 Temporary Monitoring Wells

3.9.1 General Considerations

As temporary wells are installed for immediate sample acquisition, the procedures used to purge temporary ground water monitoring wells may differ from those for permanent wells. Temporary wells include standard well screen and riser placed in boreholes created by hand augering or drilling, or they may consist of a drive rod and screen such as a direct-push Geoprobe® Screen Point that is driven into place at the desired sampling interval. As aquifer water enters the sampler immediately upon deployment, the requirement to remove several volumes of water to replace stagnant water does not necessarily apply. In practice, developing and purging the well to usable turbidity levels will remove many times the water that would be removed in a Multiple-Volume Purge with calculated well volumes. It is important to note, however, that the longer a temporary well is in place and not sampled, the more stagnant the water column becomes and the more appropriate it becomes to apply standard permanent monitoring well purging criteria to achieve representative aquifer conditions in the sample.

3.9.2 Development of Temporary Wells

In cases where the temporary well is to be sampled immediately after installation, purging is conducted primarily to mitigate the impacts of installation. In most cases, temporary well installation procedures disturb the existing aquifer conditions, causing extreme turbidity. The goal of purging is to reduce the turbidity and remove the volume of water in the area directly impacted by the installation procedure.

The following procedure has been found to be effective in developing and sampling small diameter temporary wells where a peristaltic pump can be used. Turbidity can generally be lowered to 50 NTU at the time of sampling and turbidity less than 10 NTU is often achieved.

COPY

1. Cut peristaltic tubing to reach to the bottom of the well. Connect to a peristaltic pump and begin pumping at a high rate.

2. Use the tubing to vacuum out sediment at the bottom of the well.

3. Aggressively surge the end of the tubing in the screened interval by cycling the tubing rapidly up and down. Periodically repeat vacuuming of the well bottom.

4. When a visible 'break' to a lower turbidity is observed, cease surging the well and begin lowering the pumping rate.

5. When the water clears (turbidity < 100-200 NTU) begin raising the end of the tubing to the top of the water column.

6. Continue purging from the top of the water column, lowering the pump speed as required to lower turbidity. When adequately low turbidity and stable water quality parameters have been achieved, sampling can proceed.

Where the water level is below the limit of suction in a small diameter temporary well, a Geoprobe® mechanical bladder pump can be used for purging and sampling. The well should first be developed with an inertial pump to remove the bulk of silt and suspended particles that could clog the check valves of the bladder pump. The inertial pump is used to vacuum out the bottom of the well and surged in the screened interval until a 'break' to lower turbidity is observed prior to deployment of the bladder pump. Since the mechanical bladder pump requires cumbersome redeployment to change its pumping level, it should be deployed low enough in the water column that the water level will not be lowered below the pump during purging and sampling. The mechanical bladder pump is generally deployed above the screened interval to facilitate the settling of particles, but below the top of the water column to alleviate the need to reset the pump. Detailed instructions on the deployment of the pump can be found in SESDPROC203, Pump Operation.

3.9.3 Decommissioning of Temporary Wells

After temporary wells have fulfilled their purpose, they should be properly decommissioned similar to permanent wells. In general, the casings and screens can be easily removed and the borehole should then be pressure grouted from the bottom of the original borehole to prevent surface contamination of the aquifer, cross-connection of aquifers, and to remove a potential vapor pathway.

Direct-push screen-point wells may be decommissioned by one of two methods.

1. A disposable screen is used. The sampling sheath is pulled off of the screen and a 30% solids bentonite grout is pumped down the tool string as the rods are withdrawn.

COPY

Grout volumes are measured during pumping to assure that the hole is completely filled. The disposable screen is left behind at the bottom of the borehole.

2. The screen is removed with the sampler sheath and tool string. The hole is immediately re-entered with an empty sample sheath with disposable point. Upon reaching the original total depth of the temporary well, 30% solids bentonite grout is pumped down the tool string with the pumped volume monitored during tool string withdrawal to assure that the hole is completely filled.

A system is available to insert a small diameter grouting tube down through the screen-point screen. Grout is pumped through the grouting tube while the tools are withdrawn. SESD does not use this system as grout denser than 20% solids cannot reliably be installed with this system.

Additional guidance on decommissioning may be found in SESDGUID-101, Design and Installation of Monitoring Wells.

3.9.4 Other Considerations for Direct-Push Groundwater Sampling

With certain direct push sampling techniques, such as the Hydropunch™ and other discrete samplers used with cone-penetrometer rigs, purging is either not practical or not possible. The sampling device is simply pushed or driven to the desired depth and opened, whereupon the sample is collected and retrieved. As a result, some samples collected in this way may not be satisfactory or acceptable for certain analyses, i.e., the sampler may collect a turbid sample inappropriate for metals analyses or the sample may have inadequate volume to achieve desired reporting levels.

3.10 Wells Purged to Dryness

In some situations, even with slow purge rates, a well may be purged dry in the Multiple-Volume Purge method or stable drawdown cannot be maintained in the Low-Flow method. In these cases, the well should be purged to dryness (evacuated) and sampled upon recovery of adequate volume for sampling. Sampling should occur as soon as adequate volume has recovered. The field parameters should be measured and recorded at the time of sample collection as the measurements of record for the sampling event.

Sampling under these conditions is not ideal and suitable qualifications of the data should be included in the report. Water cascading down the screen into the well may strip volatile compounds and elevate turbidity. Although suffering from other limitations, No-Purge methods may prove useful for these wells.

COPY

4 Additional Purging and Sampling Considerations

4.1 Field Care of Purging Equipment

New plastic sheeting should be placed on the ground surface around the well casing to prevent contamination of the pumps, hoses, ropes, etc., in the event they accidentally come into contact with the ground surface or, for some reason, they need to be placed on the ground during the purging event. It is preferable that hoses used in purging that come into contact with the ground water be kept on a spool or contained in a large wash tub lined with plastic sheeting, both during transportation and during field use, to further minimize contamination by the transporting vehicle or the ground surface.

Careful consideration shall be given to using submersible centrifugal or bladder pumps to purge wells which are excessively contaminated with oily compounds as it may be difficult to adequately decontaminate severely contaminated pumps under field conditions. When wells of this type are encountered, alternative equipment, such as bailers or peristaltic pumps, should be considered.

4.2 Investigation Derived Waste

Purging and field cleaning of equipment generates liquid investigation derived waste (IDW), the disposition of which must be considered. See SESD Operating Procedure for Management of Investigation Derived Waste (SESDPROC-202) for guidance on management or disposal of this waste.

4.3 Sample Preservation

After sample collection, all samples requiring preservation must be preserved as soon as practical. Consult the Analytical Services Branch Laboratory Operations and Quality Assurance Manual (ASBLOQAM) for the correct preservative for the particular analytes of interest. All samples preserved using a pH adjustment (except VOCs) must be checked, using pH strips, to ensure that they were adequately preserved. This is done by pouring a small volume of sample over the strip. Do not place the strip in the sample. Samples requiring reduced temperature storage should be placed on ice immediately.

4.4 Special Sample Collection Procedures

4.4.1 Trace Organic Compounds and Metals

Special sample handling procedures should be instituted when trace contaminant samples are being collected. All sampling equipment, including pumps, bailers, water level measurement equipment, etc., which contacts the water in the well must be cleaned in accordance with the cleaning procedures described in the SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205) or SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-

COPY

206). Pumps should not be used for sampling unless the interior and exterior portions of the pump and the discharge hoses are thoroughly cleaned. Rinse blank samples should be collected to verify the adequacy of cleaning when using a sampling pump other than a peristaltic pump.

4.4.2 Order of Sampling with Respect to Analytes

In many situations when sampling permanent or temporary monitoring wells, sufficiently low turbidity is difficult to achieve and maintain. Removal and insertion of equipment after the purge or during sampling may negate the low turbidities achieved during purging and elevate turbidity back to unacceptable levels. For this reason, it is important that special efforts be used to minimize any disturbance of the water column after purging and to fill sample containers for metals analysis first. The preferred order of sampling is metals first, followed by other inorganic analytes, extractable organic compounds, and finally volatile organic compounds.

4.5 Filtering

As many contaminants are known to sorb to soil particles, the normal goal of sampling is to reduce the presence of these particles (measured by turbidity) in order that the dissolved concentration of contaminants can be obtained. However, transport of sorbed contamination on colloidal particles can be a means of contaminant transport on some sites. For this reason, the SESD approach is to reduce turbidity through the careful purging of wells, rather than through filtering of samples, in order that the colloidal particles would be included in the sample.

As a standard practice, ground water samples will not be filtered for routine analysis. Filtering will usually only be performed to determine the fraction of major ions and trace metals passing the filter and used for flow system analysis and for the purpose of geochemical speciation modeling. Filtration is not acceptable to correct for improperly designed or constructed monitoring wells, inadequate well development, inappropriate sampling methods, or poor sampling technique.

When samples are collected for routine analyses and are filtered, both filtered and non-filtered samples will be submitted for analyses. Samples for organic compounds analysis should not be filtered. Prior to filtration of the ground water sample for any reason other than geochemical speciation modeling, the following criteria must be demonstrated to justify the use of filtered samples for inorganic analysis:

1. The monitoring wells, whether temporary or permanent, have been constructed and developed in accordance with the SESD Guidance Document, Design and Installation of Monitoring Wells (SESDGUID-001).

2. The ground water samples were collected using sampling techniques in accordance with this section, and the ground water samples were analyzed in accordance with USEPA approved methods.

COPY

3. Efforts have been undertaken to minimize any persistent sample turbidity problems. These efforts may consist of the redevelopment or re-installation of permanent ground water monitoring wells or the implementation of carefully conducted low flow rate sampling techniques.

If filtration is necessary for purposes of geochemical modeling or other **pre-approved** cases, the following procedures are suggested:

1. Accomplish in-line filtration through the use of disposable, high capacity filter cartridges (barrel-type) or membrane filters in an in-line filter apparatus. The high capacity, barrel-type filter is preferred due to the higher surface area associated with this configuration. If a membrane filter is utilized, a minimum diameter of 142 mm is suggested.

2. When using pumps for sampling, the filter can generally be attached directly to the pump outlet. When sampling with a bailer or when otherwise required, an initial unfiltered sample with extra volume will be collected, and a peristaltic pump with filter used to decant and filter the sample to the final sample container.

3. Use a 0.45 µm pore-size filter to remove most non-dissolved particles. A 5 µm or 10 µm pore-size filter should be used for the purpose of determining colloidal constituent concentrations.

4. Fill the filter and rinse with approximately one additional filter volume prior to filling sample bottles

Potential differences can result from variations in filtration procedures used to process water samples for the determination of trace element concentrations. A number of factors associated with filtration can substantially alter "dissolved" trace element concentrations; these include filter pore size, filter type, filter diameter, filtration method, volume of sample processed, suspended sediment concentration, suspended sediment grain-size distribution, concentration of colloids and colloidally-associated trace elements, and concentration of organic matter. Therefore, consistency is critical in the comparison of short-term and long-term results. Further guidance on filtration may be obtained from the following: 1) Metals in Ground Water: Sampling Artifacts and Reproducibility; 2) Filtration of Ground Water Samples for Metals Analysis; and 3) Ground Water Sampling - A Workshop Summary. See Section 1.4, References, for complete citation for these documents.

4.6 Bacterial Sampling

Whenever wells (normally potable wells) are sampled for bacteriological parameters, care must be taken to ensure the sterility of all sampling equipment and all other equipment entering the well. Further information regarding bacteriological sampling is available in the following: 1) Sampling for Organic Chemicals and Microorganisms in

COPY

the Subsurface; 2) Handbook for Evaluating Water Bacteriological Laboratories; and 3) Microbiological Methods for Monitoring the Environment, Water and Wastes. See Section 1.4, References, for complete citation for these documents.

4.7 Specific Sampling Equipment Quality Assurance Techniques

All equipment used to collect ground water samples shall be cleaned as outlined in the SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205) or SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-206). Malfunctioning equipment should be labeled in the field and repaired, before being stored at the conclusion of field studies. Cleaning procedures utilized in the field or field repairs shall be thoroughly documented in field records.

4.8 Auxiliary Data Collection

During ground water sample collection, it is important to record a variety of ground water related data. Included in the category of auxiliary data are water levels measured according to the SESD Operating Procedure for Groundwater Level and Well Depth Measurement (SESDPROC-105), well volume determinations, pumping rates during purging, and, driller or boring logs. This information should be documented in the field records.

4.9 Well Development

Wells may be encountered that are difficult to sample effectively due to inadequate initial development or the need for redevelopment due to scaling, sedimentation, corrosion, or biofouling. These wells may produce water only at low flow rates or water with chronically elevated turbidity. Redevelopment of these wells should be considered as the process can improve sample quality and speed field operations. Well development procedures are described in Design and Installation of Monitoring Wells (SESDGUID-101).

EXHIBIT P-3

FIELD INDICATOR PARAMETER MEASUREMENT PROCEDURES

Region 4 U.S. Environmental Protection Agency Laboratory Services and Applied Science Division Athens, Georgia	
Operating Procedure	
Title: Field pH Measurement	ID: LSASDPROC-100-R5
Issuing Authority: LSASD Field Branch Chief	
Review Issue Date: July 23, 2020	Review Due Date: July 23, 2024

Purpose

This document describes procedures, methods and considerations to be used and observed when conducting field pH measurements in aqueous phase environmental media, including groundwater, surface water and certain wastewaters.

Scope/Application

The procedures contained in this document are to be used by field personnel when measuring the pH of aqueous phase environmental media in the field. On the occasion that LSASD field personnel determine that any of the procedures described in this section cannot be used to obtain pH measurements of the media being sampled, and that another method must be used to obtain said measurements, the variant instrument and/or measurement procedure will be documented in the field logbook and subsequent investigation report, along with a description of the circumstances requiring its use. Mention of trade names or commercial products in this operating procedure does not constitute endorsement or recommendation for use.

Uncontrolled When Printed

TABLE OF CONTENTS

Purpose 1
Scope/Application 1
1 General Information 3
1.1 Documentation/Verification 3
1.2 General Precautions 3
1.2.1 Safety 3
1.2.2 Procedural Precautions 3
2 Quality Control 3
3 Field pH Measurement Procedures 4
3.1 General 4
3.2 Instrument Calibration 4
3.3 Field Measurement Procedures 6
3.3.1 Grab Sample Measurements 6
3.3.2 Overtopping Cell Measurements 6
3.3.3 *In-Situ* Measurements 7
3.3.4 Sample Preservation Verification 7
3.4 Operational Check 7
References 8
Revision History 9

Uncontrolled When Printed

1 General Information

1.1 Documentation/Verification

This procedure was prepared by persons deemed technically competent by LSASD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on LSASD's local area network (LAN). The Document Control Coordinator is responsible for ensuring that the most recent version of the procedure is placed on LSASD's LAN and for maintaining records of review conducted prior to its issuance.

1.2 General Precautions

1.2.1 Safety

Proper safety precautions must be observed when conducting field pH measurements. Refer to the LSASD Safety, Health and Environmental Management Program Procedures and Policy Manual (Most Recent Version) and any pertinent site-specific Health and Safety Plans (HASPs) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

1.2.2 Procedural Precautions

All field pH measurements pertinent to the sampling event should be recorded in the field logbook for the event. All records, including a unique, traceable identifier for the instrument, such as a property number or serial number, should be entered according to the procedures outlined in the LSASD Operating Procedure for Logbooks (LSASDPROC-010) and the LSASD Operating Procedure for Equipment Inventory and Management, (LSASDPROC-108). Care should be taken not to contaminate standards and samples and verify the expiration date of all standards prior to use. All meters should be calibrated, operated and maintained according to the manufacturer's specifications.

2 Quality Control

All pH meters will be maintained and operated in accordance with the manufacturer's instructions and the LSASD Operating Procedure for Equipment Inventory and Management (LSASDPROC-108). Before a meter is taken to the field, it will be properly calibrated or verified, according to Section 3.2 of this procedure, to ensure it is operating properly. These calibration and verification checks will be documented and maintained in a logbook.

Uncontrolled When Printed

The ambient temperature in the immediate vicinity of the meter should be measured and recorded in the field logbook to ensure the instrument is operated within the manufacturer's specified range of operating temperatures, although this is typically not necessary for ecological studies. For instruments that are deployed for *in-situ* measurements, the temperature of the medium being monitored should be measured and recorded in the logbook prior to deployment. *In-situ monitoring equipment may be utilized in unattended deployments where autonomous logging may preclude temperature measurement prior to deployment. Because in-situ instrumentation generally has a wide range of operating temperatures, the field investigator may utilize professional judgment in determining if the operating environment is suitable for unattended deployment.*

If at any time during a field investigation, it appears that the environmental conditions could jeopardize the quality of the measurement results, the measurements will be stopped. This will be documented in the field logbook.

3 Field pH Measurement Procedures

3.1 General

pH is defined as the negative logarithm of the effective hydrogen-ion concentration. The ion selective pH electrode measures the difference in potentials between the two sides in a glass electrode. The circuit is closed through internal solutions of the electrode and the external solution that is being measured and the pH meter. As the electrode is immersed in the test solution the glass bulb senses the positive charged hydrogen ions as millivolts (mV). The pH meter measures the difference between an internal electrode and a reference electrode. This mV reading is then read by the meter and is displayed in pH units. For routine work, a pH meter accurate and reproducible to within 0.2 Standard Units (S.U.) is suitable. For NPDES compliance monitoring, the pH meter should be accurate and reproducible to within 0.1 S.U. Both meters should have a range of 0 to 14 S.U. and be equipped with a temperature-compensation adjustment. Modern pH meters usually have a protective housing around the glass bulb but are sensitive scientific instruments and should be handled with care. Most pH electrodes last from one to two years, depending on the deployment environment and if proper storage solution was used during periods of inactivity.

3.2 Instrument Calibration

Many brands of instruments are commercially available for the measurement of pH incorporating a wide variety of technologies. The manufacturer's instruction manual should be consulted for specific procedures regarding their calibration, maintenance and use. Calibration of any measurement instrument must be conducted and/or verified prior to each use or on a daily basis, whichever is most appropriate. At a minimum, a two-point calibration should be conducted to ensure the accuracy of the meter. The following are basic guidelines for calibration/verification and are provided as an example (procedure may vary based on the instrument used):

Uncontrolled When Printed

1. Verify the meter's internal temperature sensor (thermistor) against a National Institute of Standards and Technology (NIST) traceable thermometer and note any differences between the thermistor and the NIST-traceable thermometer in the logbook. If the temperatures do not agree within ± 4°C, the unit or probe must be repaired or replaced. Alternatively, if the meter can be used in a manual temperature compensation mode, the NIST-traceable thermometer may be used for temperature readings and the necessary corrections applied. Check and record the temperatures of the standards and the samples.

2. If the pH range of the sample is not known, the pH of the sample to be tested should be estimated either from historical data or by using a four-color pH indicator paper or equivalent. Using this information, calibrate the pH meter with the buffers that bracket the expected pH range. Buffer solutions are commonly pH 4, 7 and 10. It may be possible to configure the pH meter so that it can be standardized with buffers other than those in the default configuration. Note that buffer values are temperature specific (reading true at 25°C) and be sure to input the correct buffer calibration value for the given temperature in step 3 below. Some pH probes are capable of Automatic Temperature Compensation (ATC) and will recognize the correct temperate corrected value of the calibration standard.

3. Immerse the probe in the required buffer solutions and record pre-cal values (pH 7 buffer is typically the first cal point). Then re-immerse the probe to calibrate to the correct pH buffer value, also recording the post-cal value. Rinse the probe with de-ionized water and blot dry or otherwise remove excess rinse water between the different buffer solutions. Record the buffer values and temperatures used to calibrate the meter.

4. Rinse the probe with de-ionized water, blot dry or otherwise remove excess rinse water and immerse it into the appropriate buffer and read as a measurement. If the meter reads within ± 0.2 S.U. of the known value of the buffer (for general applications such as ecological studies) or ± 0.1 S.U. (for regulatory applications such as NPDES or drinking water programs), record the value indicated by the meter. If the meter is outside of the acceptable accuracy range, it should be recalibrated. If it is still outside of the acceptable accuracy range after the second calibration, the electrode and/or meter should be replaced.

5. Once the meter has been properly calibrated and verified (steps 1-4 above), it is ready for use. Rinse the probe with de-ionized water and store it according to manufacturer's recommendations. Certain instruments may require being left on until all measurements are performed and the results are recorded. When collecting measurements from grab samples, certain instrument manufacturers recommend that an intermediate check(s) be performed by periodically checking the meter against a known calibration buffers if used for extended periods (> 4 hrs).

6. Unless the manufacturer indicates that the meter maintains its calibration after being turned off, meters must be re-calibrated if they are turned off during their period of use.

   Note: If multi-parameter sondes are used, calibrate according to the manufacturer's specifications and procedural directions. Calibration procedures for sondes for *in-situ* monitoring may in some cases be different than those for field pH meters using open probes. Those procedures are documented in LSASD's SOP listed as: LSASDPROC-111-R4, In-Situ

Uncontrolled When Printed

3.3 Field Measurement Procedures

Measurements in the field may occur under several conditions, requiring various specific procedures. A pH probe should never be placed in an analytical sample to avoid cross-contamination, only sample aliquots should be used as a surrogate for sample pH measurements. Use of the word *sample* below implies that a sample aliquot has been collected.

3.3.1 Grab Sample Measurements

These procedures should be followed when conducting field pH measurements of grab sample:

1. Collect a sample. If the meter's thermistor is to be used for the temperature of record for the measurement activity, the temperature should be read as soon as the reading stabilizes and prior to measuring the pH.

   Note 1a: When the pH meter response is slow, unstable, or non-reproducible, it may be necessary to check the conductivity. If the conductivity is lower than 20 to 30 µmhos/cm, it is permissible to add 1 ml of 1M potassium chloride solution per 100 ml of sample to improve response time for the probe. Recheck the pH and record.

   Note 1b: If the pH measurements are to be used for RCRA regulatory purposes and when the pH approaches the alkaline end ($pH \geq 11.0$) of the scale, the pH measurements should be made by a qualified analyst using laboratory quality equipment to control the sample at 25°C ± 1°C.

2. Immerse the lower part of the probe in the sample. Typically, in the field, the pH probe is not kept away from container bottom or sides during calibration, or during field readings in an overtopping cell, as it is not practical. End of day readings are also performed the same way. Allow ample time for the probe to equilibrate with the sample.

3. While suspending the probe in the sample container, record the pH.

4. Rinse the probe with de-ionized water and replace end cap if applicable. For longer term storage, place probe in the manufacturer's recommended storage solution.

3.3.2 Overtopping Cell Measurements

Often during groundwater sampling, an overtopping cell may be used with purge water constantly flowing through the cell during purging. These procedures should be followed when conducting field pH measurements using an overtopping cell:

1. Immerse the bottom portion of the probe in the open-top container being used for purge water

Uncontrolled When Printed

flow-through. Allow it to equilibrate with the purge water and stabilize until the meter indicates that it is ready for readings. Readings may be recorded at certain timed intervals in the field, prior to collecting the sample for laboratory analysis.

2. When finished at one sampling station during the day and moving to the next, the protective end cap should be placed on the probe until ready for use again.

3.3.3 *In-Situ* Measurements

These procedures should be followed when conducting *in-situ* field pH measurements:

1. Place the probe/sonde into the media to be measured and allow the pH and temperature readings to stabilize. Once the readings have stabilized, record the measurements in the logbook.

2. When deploying meters for extended periods of time, ensure the measurement location is representative of average media conditions.

   Note: If multi-parameter sondes are used for pH measurement, procedures such as for depth profiling of pH, may be different than for pH meters with open probes. Those procedures are documented in LSASD's SOP listed as: LSASDPROC-111-R4, In-Situ Water Quality Monitoring.

3.3.4 Sample Preservation Verification

When verifying the pH for sample preservation in a field sample collected for laboratory analysis, this procedure should be followed:

1. Pour a small amount of sample from bottle over a pH strip to determine if the sample has been preserved to the specified pH range; meters are not needed. Be sure to properly dispose of used pH strips, as contaminant level is likely unknown.

3.4 Operational Check

Even though it is not necessary to re-calibrate pH meters at regular intervals during the day, depending on the instrument, it may be appropriate to occasionally perform operational checks to determine if site conditions, such as an increase in temperature, have impacted the meter's performance. If an operational check is warranted, the following procedure should be followed to ensure that the performance of the meter has not changed.

1. While in use, periodically check the pH by rinsing the probe with de-ionized water, blot dry or

Uncontrolled When Printed

otherwise remove excess rinse water and immerse it into the appropriate buffer solution. If the measured pH differs by $\geq$ 0.2 S.U. or 0.1 S.U. (depending on the application) from the buffer solution, the meter must be re-calibrated.

A post-operation instrument verification check will be performed using the appropriate buffer(s) at the end of the day or after all measurements have been taken for a particular period of operation. These measurements must be recorded in the field logbook.

References

LSASD Operating Procedure for Equipment Inventory and Management, LSASDPROC-108, Most Recent Version

LSASD Operating Procedure for Logbooks, LSASDPROC-010, Most Recent Version

United States Environmental Protection Agency (US EPA). 2001. Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. Region 4 Science and Ecosystem Support Division (LSASD Athens, GA

USEPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 LSASD, Athens, GA, Most Recent Version.

Uncontrolled When Printed

Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the LSASD Document Control Coordinator on the LSASD local area network (LAN).

History	Effective Date
LSASDPROC-100-R5, *Field pH Measurement,* replaces SESDPROC-100-R4 **General:** Corrected any typographical, grammatical, and/or editorial errors. Updated document format and naming convention. Replaced SESD and FSB with LSASD and ASB throughout due to Agency Re-alignment. Added language to Section 3.2 to specify that pH readings are temperature dependent and include steps for entering the current temperature when calibrating meters. Included language for documenting pre cal and post calibration readings. Section 3.3- clarified that pH meters should not be placed in samples to prevent contamination. Added Section 3.3.2 for performing pH measurement using overtopping cells. Added language for long term storage of probes to Section 3.3.1.3 Updated References	July 23, 2020
LSASDPROC-100-R4, *Field pH Measurement,* replaces LSASDPROC-100-R3 **General:** Corrected any typographical, grammatical, and/or editorial errors. **Title Page:** Changed the Field Quality Manager from Bobby Lewis to Hunter Johnson. Updated cover page to represent LSASD reorganization. John Deatrick was not listed as the Chief of the Field Services Branch	December 16, 2016
LSASDPROC-100-R3, *Field pH Measurement,* replaces LSASDPROC-100-R2	January 29, 2013
LSASDPROC-100-R2, *Field pH Measurement,* replaces LSASDPROC-100-R1	June 13, 2008
LSASD-100-R1, *Field pH Measurement*, replaces LSASDPROC-100-R0	November 1, 2007
LSASDPROC-100-R0, *Field pH Measurement*, Original Issue	February 05, 2007

Uncontrolled When Printed

Region 4 U.S. Environmental Protection Agency Laboratory Services and Applied Science Division Athens, Georgia	
OPERATING PROCEDURE	
Title: Field Specific Conductance Measurement	ID: LSASDPROC-101-R7
Issuing Authority: LSASD Field Branch Chief	
Effective Date: May 5, 2020	Review Date: May 5, 2023

Purpose

This document describes procedures, methods and considerations to be used and observed when conducting field specific conductance measurements in aqueous phase environmental media, including groundwater, surface water and certain wastewaters.

Scope/Application

The procedures contained in this document are to be used by field investigators when measuring the specific conductance of aqueous phase environmental media in the field. On the occasion that LSASD field investigators determine that any of the procedures described in this section cannot be used to obtain specific conductance measurements of the media being sampled, and that another method must be used to obtain said measurements, the variant instrument and/or measurement procedure will be documented in the field logbook, along with a description of the circumstances requiring its use. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

TABLE OF CONTENTS

Purpose 1
Scope/Application 1
1 General Information 3
1.1 Documentation/Verification 3
1.2 General Precautions 3
1.2.1 Safety 3
1.2.2 Procedural Precautions 3
2 Quality Control 3
3 Field Specific Conductance Measurement Procedures 4
3.1 General 4
3.2 Instrument Calibration and Verification 4
3.3 Sample Measurement Procedures 5
3.4 Operational Checks 6
References 7

1 General Information

1.1 Documentation/Verification

This procedure was prepared by persons deemed technically competent by LSASD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the LSASD local area network (LAN). The Document Control Coordinator is responsible for ensuring the most recent version of the procedure is placed on the LAN and for maintaining records of review conducted prior to its issuance.

1.2 General Precautions

1.2.1 Safety

Proper safety precautions must be observed when conducting field specific conductance measurements. Refer to the LSASD Safety, Health and Environmental Management Program Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASPs) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

1.2.2 Procedural Precautions

All field specific conductance measurements pertinent to the sampling event, including a unique, traceable identifier for the instrument, such as a property number or serial number, should be recorded in the field logbook for the event. All records should be entered according to the procedures outlined in the LSASD Operating Procedure for Logbooks (LSASDPROC-010, most recent version).

Care should be taken to not contaminate standards and samples and verify the expiration date of all standards prior to use. All meters should be calibrated, operated and maintained according to the manufacturer's specifications.

2 Quality Control

All specific conductance meters will be maintained and operated in accordance with the manufacturer's instructions and the LSASD Operating Procedure for Equipment Inventory and Management (LSASDPROC-108, most recent version). Before a meter is taken to the field, it will be properly calibrated or verified, according to Section 3.2 of this procedure, to ensure it is operating properly. These calibration and verification checks will be documented and maintained in a logbook.

The ambient temperature in the immediate vicinity of the meter should be measured and recorded in the field logbook to ensure the instrument is operated within the manufacturer's specified range of operating temperatures. For instruments that are deployed for in-situ measurements, the temperature of the medium being monitored should be measured and recorded in the logbook prior to deployment. *In-situ monitoring equipment may be utilized in unattended deployments where autonomous logging may preclude*

temperature measurement prior to deployment. Because in-situ instrumentation generally has a wide range of operating temperatures, the field investigator may utilize professional judgment in determining if the operating environment is suitable for unattended deployment.

If at any time during a field investigation it appears that the environmental conditions could jeopardize the quality of the measurement results, the measurements will be stopped. This will be documented in the field logbook.

3 Field Specific Conductance Measurement Procedures

3.1 General

Specific conductance is a measure of the ability of an aqueous solution to conduct an electric current and is customarily reported in microsiemens per centimeter (µS/cm) or micromhos per centimeter (µmhos/cm) at 25°C. It is important to note that if the specific conductance measurements are for NPDES reporting purposes, the meter and conductivity cell should be verified by comparing against a laboratory meter with a platinum-electrode type conductivity cell.

3.2 Instrument Calibration and Verification

Many brands of instruments are commercially available for the measurement of specific conductance incorporating a wide variety of technologies. The manufacturer's instruction manual should be consulted for specific procedures regarding their calibration, maintenance and use. Calibration of any measurement instrument must be conducted and/or verified prior to each use or on a daily basis, whichever is most appropriate.

Conductivity is affected by temperature; therefore, for instruments that do not automatically compensate for temperature, the user should document temperature first so that appropriate adjustments can be made in accordance with the manufacturer's instructions and/or method. The following are basic guidelines for calibration/verification and are provided as an example:

1. Verify the meter's internal temperature sensor (thermistor) against a National Institute of Standards and Technology (NIST) traceable thermometer and note any differences between the thermistor and the NIST-traceable thermometer in the logbook. If the temperatures do not agree within ± 4°C, the unit must be repaired or replaced. Alternatively, if the meter can be used in a manual temperature compensation mode, the NIST-traceable thermometer may be used for temperature readings and the necessary corrections applied. Check and record the temperatures of the standards and the samples.

2. Rinse the probe with de-ionized water and blot dry before conducting the following calibration and verification checks.

3. Immerse the probe in the first standard solution and calibrate or verify the meter against that solution. Fresh standards should be used for each calibration. After the initial standard, calibrate and/or verify the meter using additional standards, as appropriate. Rinse the probe with de-ionized water and blot dry or otherwise remove excess rinse water between the

different standards. Record the standard values/temperatures used to calibrate or verify the meter.

Note: Some instruments require that calibration standards reflect the anticipated specific conductance of the media being measured.

4. Some meters will auto-recognize standards during calibration. For example, the Thermo Star Series meter will auto-recognize standards 1413 µS/cm, 100 µS/cm and 12.9 mS/cm. If the meter is calibrated in a manner where it does not auto-recognize the standard, and the meter is not accurate to ± 10 % of the standard solution(s) known values, the meter or probe should be repaired or replaced. If this condition can be corrected by adjusting the cell constant of the probe, refer to the instruction manual and make the adjustment. Note: The Thermo Star A325 units primarily used for ground water investigations should be set to Temperature Correction mode nLFn for best results.

5. After calibration is complete, place the probe back into the calibration standard used and record a post-calibration reading. Record a post calibration reading for each standard used. If the meter is not accurate to within ± 10 % of the standard solution(s) known values, it should be recalibrated. If it is still outside of the acceptable accuracy range after the second calibration, the probe and/or meter should be replaced.

6. Once the meter has been properly calibrated and verified (steps 1-5 above), it is ready for use. Rinse the probe with de-ionized water and store it in the manufacturer's recommended storage solution. Certain meters may require that the instrument be left on until all sample measurements are performed and the results are recorded. When collecting measurements from grab samples, certain instrument manufacturers recommend that an intermediate check(s) be performed by periodically checking the meter against the known calibration standards if used for extended periods (> 4 hrs).

3.3 Sample Measurement Procedures

The following procedures should be followed when conducting field specific conductance measurements of grab samples:

1. Collect the sample, check and record its temperature.

2. Correct the instrument's temperature adjustment to the temperature of the sample (if required).

3. Immerse the probe in the sample keeping it away from the sides and bottom of the container. It is important that the center portion of the probe be wetted by the sample.

4. Allow meter to stabilize. Record the results in a logbook.

5. Rinse probe with de-ionized water.

The following procedures should be followed when conducting in-situ field specific conductivity measurements:

1. Place the probe into the media to be measured and allow the specific conductivity and temperature readings to stabilize. Once the readings have stabilized, record the measurements in the logbook.

2. When deploying meters for extended periods of time, ensure the measurement location is representative of average media conditions.

3.4 Operational Checks

Even though it is not necessary to re-calibrate conductivity meters at regular intervals during the day, depending on the instrument, it may be appropriate to occasionally perform operational checks to determine if site conditions, such as an extreme temperature change, have impacted the meter's performance. If an operational check is warranted, the following procedures should be followed to ensure that the performance of the meter has not changed.

Check the conductivity meter with fresh conductivity standard. Rinse the conductivity probe with deionized water, blot dry or otherwise remove excess rinse water and immerse it into the appropriate conductivity standard. If the measured conductivity value is not with ± 10% of the standard, the probe should be re-calibrated. If the probe is still not within ± 10% of the standard, the probe should be repaired or replaced. These measurements must be recorded in the field logbook.

A post-operation instrument verification check should be performed using the appropriate standard(s) at the end of the day or after all measurements have been taken for a particular period of operation. These measurements must be recorded in the field logbook.

References

LSASD Operating Procedure for Equipment Inventory and Management, LSASDPROC-108, Most Recent Version

LSASD Operating Procedure for Logbooks, LSASDPROC-010, Most Recent Version

United States Environmental Protection Agency (US EPA). 2001. Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. Region 4 Laboratory Services & Applied Science Division (LSASD), Athens, GA

US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 LSASD, Athens, GA, Most Recent Version

Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the LSASD Document Control Coordinator on the LSASD local area network (LAN).

History	Effective Date
LSASDPROC-101-R7 *Field Specific Conductance Measurement*, replaces SESDPROC-101-R6 **General:** Corrected any typographical, grammatical, and/or editorial errors. Changed references to Division Name to match current organization **Cover Page:** Changed Names of Division and approving officials to reflect current organization. Section 3.2 added a reference to the appropriate temperature compensation setting for the Thermo Star A325.	May5, 2020
SESDPROC-101-R6, *Field Specific Conductance Measurement*, replaces SESDPROC-101-R5 **General:** Corrected any typographical, grammatical, and/or editorial errors. Throughout the document mention of quality system or SESD quality system was replaced with Field Branches Quality System or FBQS. **Cover Page:** Omitted Hunter Johnson as an author. Updated cover page to represent SESD reorganization. John Deatrick was not listed as the Chief of the Field Services Branch.	July 13, 2016
SESDPROC-101-R5, *Field Specific Conductance Measurement*, replaces SESDPROC-101-R4	August 30, 2012
SESDPROC-101-R4, *Field Specific Conductance Measurement*, replaces SESDPROC-101-R3	January 13, 2012
SESDPROC-101-R3, *Field Specific Conductance Measurement*, replaces SESDPROC-101-R2	August 12, 2011
SESDPROC-101-R2, *Field Specific Conductance Measurement*, replaces SESDPROC-101-R1	June 13, 2008
SESDPROC-101-R1, *Field Specific Conductance Measurement*, replaces SESDPROC-101-R0	November 1, 2007
SESDPROC-101-R0, *Field Specific Conductance Measurement*, Original Issue	February 05, 2007

Region 4 U.S. Environmental Protection Agency Science and Ecosystem Support Division Athens, Georgia	
Operating Procedure	
Title: **Field Temperature Measurement**	ID: **SESDPROC-102-R5**
Issuing Authority: Chief, Field Services Branch	
Effective Date: March 14, 2018	

Purpose
This document describes general and specific procedures, methods and considerations to be used and observed when measuring the temperature of aqueous phase environmental media, including groundwater, surface water and certain wastewaters.

Scope/Application
The procedures contained in this document are to be used by field personnel when measuring the temperature of aqueous phase environmental media in the field. On the occasion that SESD field personnel determine that any of the procedures described in this section cannot be used to obtain temperature measurements of the media being sampled, and that another method or measurement instrument must be used to obtain said measurements, the variant instrument and measurement procedure will be documented in the field log book and subsequent investigation report, along with a description of the circumstances requiring its use.

While this SOP may be informative, it is not intended for and may not be directly applicable to operations in other organizations. Mention of trade names or commercial products in this operating procedure does not constitute endorsement or recommendation for use.

Uncontrolled When Printed

TABLE OF CONTENTS

1.0 Field Temperature Measurement Procedures 3

1.1 General 3
1.2 Instrument Verification 3
1.2.1 Field thermometers and thermistors 3
1.2.2 NIST-traceable thermometer 3
1.3 Inspections 4
1.4 Sample measurement procedures for thermometers/thermistors 4
1.5 Units 4
1.6 Quality Control 4

2 Definitions 5

3 References 5

4 Revision History 5

Uncontrolled When Printed

1.0 Field Temperature Measurement Procedures

1.1 General

Field temperature measurements may be made with a field thermometer, equipment thermistor, or NIST-traceable thermometer. At a minimum, the temperature measurement device should be capable of measuring in 0.1°C increments.

1.2 Instrument Verification

1.2.1 Field thermometers and thermistors

Temperature measurement devices such as field thermometers and equipment thermistors will be verified against a NIST-traceable thermometer prior to use and should agree within ± 4.0°C. Corrections may be applied for measurements up to ± 4.0°C depending on investigation objectives, but the instrument must be repaired or replaced beyond that range.

Due to the stable nature of thermistors on multi-parameter water quality instruments, thermistors will be checked at the beginning and end of a field study, but do not have to be checked for every calibration during the study. In order to track stability and reliability, the thermistors on these units will be checked against a NIST-traceable thermometer on an annual basis, with the electronic record of these checks maintained on the Ecology Section Sharepoint Site.

In order to provide the most stable readings, thermistor checks against the NIST-traceable thermometer should be conducted in a liquid calibration standard at stabilized room temperature as opposed to air during the saturated air calibration of dissolved oxygen.

Enforcement cases would still require temperature verification for every calibration and end check related to the case.

1.2.2 NIST-traceable thermometer

Verification of the NIST-traceable thermometers that are used to verify temperature measuring devices is accomplished by comparing temperature readings from the NIST-traceable thermometer to a thermometer that has an independent certification of accuracy traceable to the National Institute of Standards and Testing. Current certified thermometers are maintained by the SESD Analytical Support Branch and are called reference thermometers.

Each NIST-traceable thermometer is verified by comparing at least annually against a reference thermometer. If corrections need to be applied, they will be noted in the NIST-traceable thermometer. Depending on investigation objectives, project leaders may decide to apply the correction factor as necessary.

Uncontrolled When Printed

1.3 Inspections

All temperature measurement devices should be inspected for leaks, cracks, and/or function prior to each use.

1.4 Sample measurement procedures for thermometers/thermistors

(Make measurements in-situ when possible)

1. Clean the probe end with de-ionized water and immerse into sample.
2. If not measuring in-situ, swirl the instrument in the sample for mixing and equilibration.
3. Allow the instrument to equilibrate with the sample for at least one minute.
4. Suspend the instrument away from the sides and bottom, if not in-situ, to observe the temperature reading.
5. Record the reading in the log book. For most applications, report temperature readings to the nearest 0.5°C or to the nearest 0.1°C depending on need.

   Note: Always clean the thermometer with de-ionized water or a detergent solution, if appropriate, prior to storage and/or use.

1.5 Units

Degrees Celsius (°C) or Degrees Fahrenheit (°F)

Conversion Formulas:

$°F = (9/5\ °C) + 32$ or $°C = 5/9\ (°F - 32)$

1.6 Quality Control

All thermometers should be maintained and operated in accordance with the manufacturer's instructions and the SESD Operating Procedure for Equipment Inventory and Management (SESDPROC-108). Temperature measurement devices such as pH, conductivity and dissolved oxygen (DO) meter thermistors will be verified against a National Institute of Standards and Technology (NIST)-traceable thermometer before each use as described in Section 3.2.

If at any time during a field investigation, it appears that the environmental conditions could jeopardize the quality of the measurement results, the measurements will be stopped. This will be documented in the field logbook.

Uncontrolled When Printed

2 Definitions

None

3 References

SESD Operating Procedure for Equipment Inventory and Management, SESDPROC-108, Most Recent Version

SESD Operating Procedure for Logbooks, SESDPROC-010, Most Recent Version

United States Environmental Protection Agency (US EPA). Most Recent Version. Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. Region 4 Science and Ecosystem Support Division (SESD), Athens, GA

US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 SESD, Athens, GA, Most Recent Version

4 Revision History

This table shows changes to this controlled document over time. The most recent version is presented in the top row of the table. Previous versions of the document are maintained by the SESD Document Control Coordinator.

History	Effective Date
SESDPROC-102-R5, *Field Temperature Measurement*, replaces SESDPROC-102-R4 **General:** Corrected any typographical, grammatical, and/or editorial errors. Additionally, the document was edited to reflect new Document Control Processes. **Section 1.2.1:** Verification requirements of thermistors on multi-parameter water quality instruments were modified.	March 14, 2018
SESDPROC-102-R4, *Field Temperature Measurement*, replaces SESDPROC-102-R3	October 23, 2014
SESDPROC-102-R3, *Field Temperature Measurement*, replaces SESDPROC-102-R2	February 4, 2011
SESDPROC-102-R2, *Field Temperature Measurement*, Replaces SESDPROC-102-R1	June 13, 2008
SESDPROC-102-R1, *Field Temperature Measurement*, Replaces SESDPROC-102-R0	November 1, 2007
SESDPROC-102-R0, Field Temperature Measurement, Original Issue	February 05, 2007

Uncontrolled When Printed

COPY

Region 4
U.S. Environmental Protection Agency
Science and Ecosystem Support Division
Athens, Georgia

OPERATING PROCEDURE

Title: **Field Turbidity Measurement**

Effective Date: July 27, 2017 | **Number:** SESDPROC-103-R4

Authors

Name: Timothy Simpson
Title: Environmental Scientist

Signature: Timothy Simpson Date: 07/25/17

Approvals

Name: John Deatrick
Title: Chief, Field Services Branch

Signature: John Deatrick Date: 7/25/17

Name: Hunter Johnson
Title: Field Quality Manager, Science and Ecosystem Support Division

Signature: Hunter Johnson Date: 7/25/17

COPY

Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the SESD Document Control Coordinator on the SESD local area network (LAN).

History	Effective Date
SESDPROC-103-R4, *Field Turbidity Measurement*, replaces SESDPROC-103-R3 **General:** Added to Section 3.6 to include application of various turbidity units and associated methods relative to various applications. **Title Page:** Changed Enforcement and Investigations Branch to the Field Services Branch and changed the Chief from Danny France to John Deatrick. Changed Field Quality Manager from Bobby Lewis to Hunter Johnson. **Section 1.4:** Added new references cited in Section 3.5 **Section 3.2:** Added reference to Section 3.5 **Section 3.3.1:** Added Table 1 outlining reporting requirements. **Section 3.5:** Introduced different turbidity units associated with various methods and stated importance of using EPA approved methods for regulatory purposes. Also added Figure 1, a decision tree to assist project leaders in selecting the appropriate method to satisfy Data Quality Objectives, and Table 2, outlining technologies, associated units, application, and design.	July 27, 2017
SESDPROC-103-R3, *Field Turbidity Measurement*, replaces SESDPROC-103-R2	January 29, 2013
SESDPROC-103-R2, *Field Turbidity Measurement*, replaces SESDPROC-103-R1	June 13, 2008
SESDPROC-103-R1, *Field Turbidity Measurement*, replaces SESDPROC-103-R0	November 1, 2007
SESDPROC-103-R0, Field Turbidity Measurement, Original Issue	February 05, 2007

COPY

TABLE OF CONTENTS

1 General Information 4
1.1 Purpose 4
1.2 Scope/Application 4
1.3 Documentation/Verification 4
1.4 References 4
1.5 General Precautions 5
1.5.1 Safety 5
1.5.2 Procedural Precautions 5
2 Quality Control 6
3 Field Turbidity Measurement Procedures 7
3.1 General 7
3.2 Instrument Calibration and Verification 7
3.2.1 Meter Calibration and Verification 7
3.2.2 Probe Calibration and Verification 8
3.3 Sample Measurement Procedures 9
3.3.1 Grab Sample Measurement 9
3.3.2 In-Situ Measurement 10
3.4 Operational check 10
3.5 Units and Application 11

TABLE OF FIGURES

Figure 1: Turbidity Method Decision Tree, adapted from Figure 6.7-2 (USGS 2005) 12

TABLE OF TABLES

Table 1: Reporting Requirements (APHA, 1992) 10
Table 2: Turbidity Technology, Units, Application, & Design (adapted from ASTM International 2012) 13

COPY

1 General Information

1.1 Purpose

This document describes general and specific procedures, methods and considerations to be used and observed when conducting field turbidity measurements in aqueous phase environmental media, including groundwater, surface water and certain wastewaters.

1.2 Scope/Application

The procedures contained in this document are to be used by field personnel when measuring turbidity of various, aqueous phase environmental media in the field. On the occasion that SESD field personnel determine that any of the procedures described in this section cannot be used to obtain turbidity measurements of the media being sampled, and that another method or turbidity measurement instrument must be used to obtain said measurements, the variant instrument and measurement procedure will be documented in the field logbook, along with a description of the circumstances requiring its use. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

1.3 Documentation/Verification

This procedure was prepared by persons deemed technically competent by SESD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the SESD local area network (LAN). The Document Control Coordinator is responsible for ensuring the most recent version of the procedure is placed on the LAN and for maintaining records of review conducted prior to its issuance.

1.4 References

APHA (1992). Turbidity: Method 2130B. Standard Methods for the Examination of Water and Wastewater, 18th Edition, pp. 2-11.

ASTM International (2012). D7315-12 Standard test method for determination of turbidity above 1 turbidity unit in static mode: ASTM International, Annual Book of Standards, Water and Environmental Technology, v. 11.01, West Conshohocken, Pennsylvania.

SESD Operating Procedure for Equipment Inventory and Management, SESDPROC-108, Most Recent Version

SESD Operating Procedure for Logbooks, SESDPROC-010, Most Recent Version

COPY

USEPA (1993). Method 180.1: Determination of Turbidity by Nephelometry. Rev. 2.0. Environmental Systems Monitoring Laboratory, Office of Research and Development, Cincinnati, Ohio.

USEPA (2001). Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. Region 4 Science and Ecosystem Support Division (SESD), Athens, GA.

USEPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 SESD, Athens, GA, Most Recent Version

USGS (2004). Office of Water Quality Technical Memorandum 2004.03: Revision of NFM Chapter 6, Section 6.7- Turbidity, available online at: http://water.usgs.gov/admin/memo/QW/qw04.03.html

USGS (2005). National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A6.7, available online at http://pubs.water.usgs.gov/twri9A.

USGS (2012). Turbidity parameter and methods codes, available online at: https://water.usgs.gov/owq/turbidity/Turbidity_parameter_codes_and_methods_codes_(May2012)%20(2).xlsx

1.5 General Precautions

1.5.1 Safety

Proper safety precautions must be observed when conducting field turbidity measurements. Refer to the SESD Safety, Health and Environmental Management Program (SHEMP) Manual (Most Recent Version) and any pertinent site-specific Health and Safety Plans (HASPs) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. When using this procedure, minimize exposure to potential health hazards through the use of protective clothing, eye wear and gloves. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

1.5.2 Procedural Precautions

All field turbidity measurements pertinent to the sampling event should be recorded in the field logbook for the event. All records should be entered according to the procedures outlined in the SESD Operating Procedure for Logbooks (SESDPROC-010).

COPY

2 Quality Control

All turbidity meters and probes shall be maintained and operated in accordance with the manufacturer's instructions and the SESD Operating Procedure for Equipment Inventory and Management (SESDPROC-108). Before a meter or probe is taken to the field, it shall be properly calibrated or verified, according to Sections 3.2 and 3.3 of this procedure, to ensure it is operating properly. These calibration and verification checks shall be documented and maintained in a logbook.

The ambient temperature in the immediate vicinity of the meter should be measured and recorded in the field logbook to insure the instrument is operated within the manufacturer's specified range of operating temperatures. For instruments that are deployed for in-situ measurements, the temperature of the medium being monitored should be measured and recorded in the logbook prior to deployment. *In-situ monitoring equipment may be utilized in unattended deployments where autonomous logging may preclude temperature measurement prior to deployment. Because in situ instrumentation generally has a wide range of operating temperature, the field investigator may utilize professional judgment in determining if the operating environment is suitable for unattended deployment.*

If at any time during a field investigation, it appears that the environmental conditions could jeopardize the quality of the measurement results, the measurements will be stopped. This will be documented in the field logbook.

COPY

3 Field Turbidity Measurement Procedures

3.1 General

Turbidity is caused by suspended and colloidal matter such as clay, silt, organic and inorganic matter and microscopic organisms. Many methods are available for the measurement of turbidity including turbidimeters and optical probes. Turbidity is measured by determining the amount of scatter when a light is passed through a sample.

3.2 Instrument Calibration and Verification

Many brands of instruments are commercially available for the measurement of turbidity incorporating a wide variety of technologies (See Section 3.5 for further discussion). The manufacturer's instruction manual should be consulted for specific procedures regarding their calibration, maintenance and use. Calibration of any measurement instrument must be conducted and/or verified prior to each use or on a daily basis, whichever is most appropriate. Depending on the instrument, the verification and calibration can differ slightly. If the instrument readings do not agree within ± 10 % of the calibration standards, the unit must be recalibrated, repaired or replaced. The following are basic guidelines for calibration/verification of meters and are provided as an example:

3.2.1 Meter Calibration and Verification

HACH 2100Q Turbidimeter:

Portable turbidimeters are calibrated with Formazin Primary Standards. The manufacturer recommends calibration with a primary standard such as StablCal® Stabilized Standards or with formazin standards every three months.

Generally only a calibration verification measurement is required in the field; however, if a calibration is needed, record a post calibration reading for each calibration standard used.

Meter Verification:

1. Push **Verify Cal** to enter the Verify menu.

2. Gently invert the liquid standard several times prior to insertion into meter. Insert the 10.0 NTU (or other defined value) Verification Standard and close the Lid.

3. Push **Read**. The display shows "Stabilizing" and then shows the result and tolerance range.

COPY

4. Push **Done** to return to the reading display. Repeat the calibration verification if the verification failed. If a meter is unable to pass verification, then that meter will need to be calibrated.

Meter Calibration:

1. Push the **CALIBRATION** key to enter the Calibration mode. Follow the instructions on the display. **Note:** Gently invert each standard several times before inserting the standard and use a non-abrasive, lint-free paper or cloth to wipe off the standards.

2. Insert the 20 NTU StablCal Standard and close the lid. Push **Read**. The display shows "Stabilizing" and then shows the result. Record the result.

3. Repeat Step 2 with the 100 NTU and 800 NTU StablCal Standard. Record both results.

4. Push **Done** to review the calibration details.

5. Push **Store** to save the results. After a calibration is complete, the meter automatically goes into the Verify Cal mode.

3.2.2 Probe Calibration and Verification

The manufacturer's instruction manual should be consulted for specific procedures regarding probe's calibration, maintenance and use. Their calibration must be conducted and/or verified prior to each use or on a daily basis, whichever is most appropriate. The following are basic guidelines for calibration/verification of probes and are provided as an example:

1. Turn the meter "ON" and allow it to stabilize

2. Immerse the probe in the first standard solution and calibrate the probe against the solution.

3. Rinse the probe with de-ionized water, remove excess rinse water and calibrate the probe using additional standards as appropriate.

4. Record the standard values used to calibrate the meter.

COPY

3.3 Sample Measurement Procedures

Depending on the meter, the sample measurement procedure can differ slightly.

3.3.1 Grab Sample Measurement

These procedures should be followed when conducting turbidity measurements of grab samples:

1. Collect a representative sample and pour off enough to fill the cell to the fill line (about 15 mL) and replace the cap on the cell.

2. Gently wipe off excess water and any streaks from surface of sampling vial.

3. Turn instrument on. Place the meter on a flat, sturdy surface. Do not hold the instrument while making measurements.

4. Insert the sample cell in the instrument so the diamond or orientation mark aligns with the raised orientation mark in the front of the cell compartment. Close the lid.

5. If appropriate, select manual or automatic range selection by pressing the range key.

6. If appropriate, select signal averaging mode by pressing the Signal Average key. Use signal average mode if the sample causes a noisy signal (display changes constantly).

7. Press Read. The display will show ---- NTU. Then the turbidity is displayed in NTU. Record the result to the correct range dependent significant digits as required by EPA Method 180.1 Rev. 2.0 (USEPA, 1993) and SM 2130B (APHA, 1992) (Table 1).

8. Rinse the cell with de-ionized water or rinse out with sample water prior to the next reading.

COPY

Table 1: Reporting Requirements (APHA, 1992)

Turbidity Range *NTU*	Report to the Nearest *NTU*
0–1.0	0.05
1–10	0.1
10–40	1
40–100	5
100–400	10
400–1000	50
>1000	100

3.3.2 In-Situ Measurement

These procedures should be followed when conducting in-situ turbidity measurements:

1. Place the probe into the media to be measured and allow the turbidity reading to stabilize. Once the reading has stabilized, record the measurement in the logbook.

2. When deploying meters for extended periods of time, ensure the measurement location is representative of average media conditions.

3.4 Operational check

Even though it is not necessary to re-calibrate turbidity meters at regular intervals during the day, depending on the instrument, it may be appropriate to occasionally perform operational checks to determine if site conditions, such as an increase in temperature, have impacted the meter's performance. If an operational check is warranted, the following procedure should be followed to ensure that the performance of the meter has not changed.

While in use, periodically check the turbidity by rinsing the probe with de-ionized water, blot dry or otherwise remove excess rinse water and immerse it into the appropriate calibration standard. If the measured turbidity differs by ± 10 % (depending on the application) from the calibration standard, the meter must be re-calibrated.

A post-operation instrument verification check will be performed using the appropriate standard(s) at the end of the day or after all measurements have been taken for a particular period of operation. These measurements must be recorded in the field logbook.

COPY

3.5 Units and Application

Due to the availability of various technologies for measuring turbidity, the USGS (United States Geological Survey) in collaboration with ASTM International (American Society for Testing and Materials) has determined that data collected using different methods are not directly comparable and should be reported in units reflecting the specific technology used (USGS 2004; ASTM International 2012) (Table 2).

Measurements taken for regulatory purposes (i.e. National Primary Drinking Water Regulations (NPDWR) monitoring, National Pollution Discharge Elimination System (NPDES) reporting) must be in compliance with EPA approved methods. Approved methods for Clean Water Act programs and Safe Drinking Water Act programs can be found in 40 C.F.R. § 136.3 and 40 C.F.R. § 141.74(a)(1), respectively.

Project leaders should consult the decision tree depicted in Figure 1 to determine the appropriate turbidity method that will meet the project specific Data Quality Objectives. For more detailed information on the different methods and their associated units, refer to the USGS National Field Manual for the Collection of Water-Quality Data, Section 6.7 (USGS 2005) and ASTM designation D7315 (ASTM International 2012). A sensor specific spreadsheet detailing methods and associated units can be found on the USGS Field Manual website under turbidity parameter and methods codes (USGS 2012).

COPY

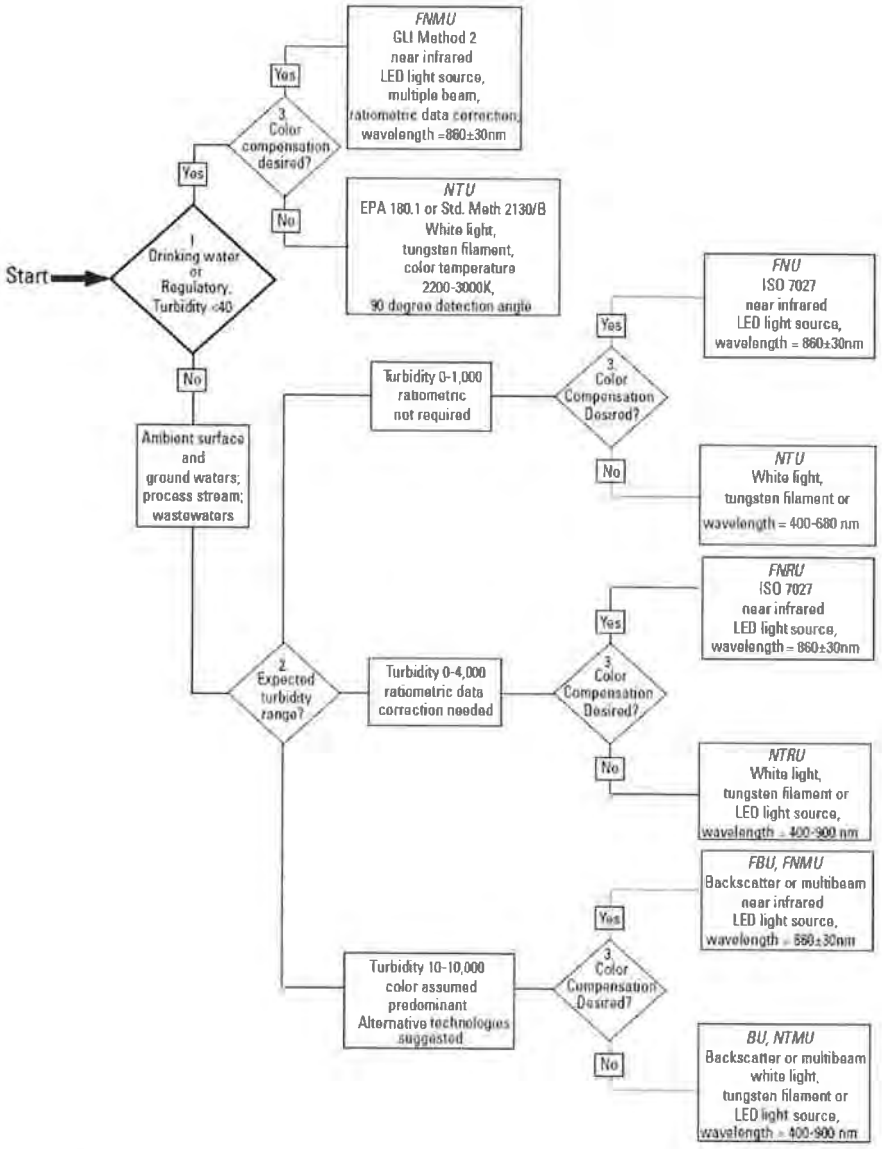


Figure 1: Turbidity Method Decision Tree, adapted from Figure 6.7-2 (USGS 2005)

COPY

Table 2: Turbidity Technology, Units, Application, & Design (adapted from ASTM International 2012)

Design and Reporting Unit	Prominent Application	Key Design Features
Nephelometric non-ratio (NTU)	White light turbidimeters. Comply with USEPA Method 180.1 for low level turbidity monitoring.	Detector centered at 90° relative to the incident light beam. Uses a white light spectral source.
Ratio White Light turbidimeters (NTRU)	Complies with ISWTR regulations and Standard Method 2130B. Can be used for both low and high level measurement.	Used a white light spectral source. Primary detector centered at 90°. Other detectors located at other angles. An instrument algorithm uses a combination of detector readings to generate the turbidity reading.
Nephelometric, near-IR turbidimeters, non-ratiometric (FNU)	Complies with ISO 7027. The wavelength is less susceptible to color interferences. Applicable for samples with color and good for low level monitoring.	Detector centered at 90° relative to the incident light beam. Uses a near-IR (780–900 nm) monochromatic light source.
Nephelometric near-IR turbidimeters, ratio metric (FNRU)	Complies with ISO 7027. Applicable for samples with high levels of color and for monitoring to high turbidity levels.	Uses a near-IR monochromatic light source (780–900 nm). Primary detector centered at 90°. Other detectors located at other angles. An instrument algorithm uses a combination of detector readings to generate the turbidity reading.
Surface Scatter Turbidimeters (NTU)	Turbidity is determined through light scatter from or near the surface of a sample.	Detector centered at 90° relative to the incident light beam. Uses a white light spectral source.
Formazin Back Scatter (FBU)	Not applicable for regulatory purposes. Best applied to high turbidity samples. Backscatter is common with but not all only probe technology and is best applied in higher turbidity samples.	Uses a near-IR monochromatic light source in the 780–900 nm range. Detector geometry is between 90° and 180° relative to the incident light beam.
Backscatter Unit (BU)	Not applicable for regulatory purposes. Best applied for samples with high level turbidity.	Uses a white light spectral source (400–680 nm range). Detector geometry is between 90° and 180° relative to the incident light beam.
Formazin attenuation unit (FAU)	May be applicable for some regulatory purposes. This is commonly applied with spectrophotometers. Best applied for samples with high level turbidity.	Detector is geometrically centered at 0° relative to incident beam (attenuation). Wavelength is 780–900 nm.
Light attenuation unit (AU)	Not applicable for some regulatory purposes. This is commonly applied with spectrophotometers.	Detector is geometrically centered at 0° relative to incident beam (attenuation). Wavelength is 400–690 nm.
Nephelometric Turbidity Multibeam Unit (NTMU)	Is applicable to EPA regulatory method GLI Method 2. Applicable to drinking water and wastewater monitoring applications.	Detectors are geometrically centered at 0° and 90°. An instrument algorithm uses a combination of detector readings, which may differ for turbidities varying magnitude.

COPY

Region 4
U.S. Environmental Protection Agency
Science and Ecosystem Support Division
Athens, Georgia

OPERATING PROCEDURE

Title: **Field Measurement of Dissolved Oxygen**

Effective Date: April 12, 2017 | **Number:** SESDPROC-106-R4

Author

Name: Nathan Barlet
Title: Environmental Engineer
Signature: [signature] Date: April 5, 2017

Approvals

Name: John Deatrick
Title: Chief, Field Services Branch
Signature: [signature] Date: 4/11/17

Name: Hunter Johnson
Title: Field Quality Manager, Science and Ecosystem Support Division
Signature: [signature] Date: 4/11/17

COPY

Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the SESD Document Control Coordinator on the SESD local area network (LAN).

History	Effective Date
SESDPROC-106-R4, *Field Measurement of Dissolved Oxygen*, replaces SESDPROC-106-R3 **General:** Corrected any typographical, grammatical, and/or editorial errors. In addition, any references to former Division organizational structure was updated to reflect current structure. **Title Page:** Changed the Author from Hunter Johnson to Nathan Barlet. Changed the Field Quality Manager from Bobby Lewis to Hunter Johnson. Updated cover page to represent SESD reorganization. **Table of Contents:** Added Sections 3.2.1 Water-Saturated Air Method, 3.2.2 Air-Saturated Water Method, and 3.2.3 Zero-DO Verification & 2-Point Calibration. Changed Section 3.5 from "Operational Check" to "Operational Verification." Updated page numbers. **Section 1.4:** Added the citations for Benson and Krause (1980), Benson and Krause (1984), USGS (2013*a*), and USGS (2013*b*) as references, **Section 3.1:** Changed "volume of oxygen contained in a volume of water" to "mass of molecular oxygen contained in a volume of water." Changed "pressure" in first paragraph and third bullet point to "atmospheric pressure." **Section 3.2:** Added "However, some optical DO meters are capable of a two-point calibration at 0% and 100% saturation, refer to Section 3.2.3 for applicability." Added Section 3.2.1 Water-Saturated Air Method, which includes information on the calibration procedure for the water-saturated air method. Added "Allow at least 10-15 minutes for the temperature and dissolved oxygen readings to equilibrate. Ensure that water droplets are removed from the luminescence cap or Clark cell membrane and thermistor before calibration. Refer to Section 3.5 for calibration verification procedure." Added Section 3.2.2 Air-Saturated Water Method, which includes information on the calibration procedure for the air-saturated water	April 12, 2017

COPY

method. Added "Refer to Section 3.5 for calibration verification procedure." Added Section 3.2.3 Zero-DO Verification & 2-Point Calibration. Added "It is recommended that a zero-DO verification is conducted periodically or when concentrations are expected to be below 1 mg/l (USGS, 2013*a*). A zero-DO solution can be prepared by dissolving 1 gram of sodium sulfite in 1 liter of deionized water. This should be made fresh weekly or as needed. If the unit is equipped with a wiper, it should be removed before immersing in zero-DO solution. The reading should not exceed a concentration of 0.2 mg/l dissolved oxygen in the zero-DO solution. For Clark cells that exceed this concentration, replace the electrolyte and membrane before repeating the zero-DO verification process. For optical probes that read above 0.2 mg/l in zero-DO solution, replace the sensor cap if it is expired or perform a 2-point calibration if applicable. Some optical DO probes are capable of 2-point calibrations using a zero-DO solution and the air-saturated water method discussed in Section 3.2.2. Refer to the manufacturer's instruction manual for the appropriate 2-point calibration procedure. Ensure that the probe is thoroughly rinsed of zero-DO solution after verification or calibration to avoid measurement interferences caused by residual sodium sulfite." **Section 3.4:** Changed the fifth bullet point to read "The DO meter should be capable of auto-correcting for specific conductivity/salinity or a separate instrument should be used to measure specific conductivity/salinity so that the final DO measurement(s) can be corrected." **Section 3.5:** Changed the title from "Operational Check" to "Operational Verification." Changed first paragraph to read "A post-calibration and post-operation instrument verification check should be performed using one of the techniques described in Sections 3.2.1 and 3.2.2 or 3.2.3 (for 2-point calibrations) to quantify potential instrument drift during use. A verification check will be performed after a calibration and at the end of all measurements" Changed second paragraph to read "It may be appropriate to verify the calibration of a DO meter periodically during the course of a day's measurements when conducting individual measurements. A DO probe may be re-calibrated throughout the day if drift is occurring. The verification DO concentration should be measured and recorded in the field logbook prior to any instrument adjustment." Also added the sentence "For long-term deployments a post-operation verification should be performed at the end of the deployment." Added third paragraph which reads "Verification is done by comparing a post-calibration or post-operation reading at 100% saturation conditions to a DO solubility table value at the ambient air/water	

COPY

temperature and barometric pressure. Post-calibration and post-operation readings should not exceed a maximum of ± 0.2 mg/l from the DO solubility table value. DO solubility tables can be accessed via the U.S. Geological Survey's DOTABLES software (USGS, 2013*b*) which are based on equations from Benson and Krause (1980; 1984)."	
SESDPROC-106-R3, *Field Measurement of Dissolved Oxygen*, replaces SESDPROC-106-R2	January 8, 2014
SESDPROC-106-R2, *Field Measurement of Dissolved Oxygen*, replaces SESDPROC-106-R1	February 12, 2010
SESDPROC-106-R1, *Field Measurement of Dissolved Oxygen*, replaces SESDPROC-106-R0	November 1, 2007
SESDPROC-106-R0, *Field Measurement of Dissolved Oxygen*, Original Issue	February 05, 2007

COPY

TABLE OF CONTENTS

1 General Information 6
1.1 Purpose 6
1.2 Scope/Application 6
1.3 Documentation/Verification 6
1.4 References 6
1.5 General Precautions 7
1.5.1 Safety 7

2 Quality Control 8

3 Field Measurement of Dissolved Oxygen 9
3.1 General 9
3.1.1 Clark Cell Probes 9
3.1.2 Luminescent Probes 9
3.2 Calibration 10
3.2.1 Water-Saturated Air Method 10
3.2.2 Air-Saturated Water Method 10
3.2.3 Zero-DO Verification and 2-Point Calibration 11
3.3 Maintenance 11
3.4 Conducting Field Measurement of Dissolved Oxygen 12
3.5 Operational Verification 12

COPY

1 General Information

1.1 Purpose

This document describes methods and considerations to be used and observed when conducting field measurements of dissolved oxygen in surface water, treated wastewater and in gas media for specific applications (e.g., reaeration measurement).

1.2 Scope/Application

On the occasion that SESD field investigators determine that any of the procedures described in this section are inappropriate, inadequate or impractical and that another method must be used to obtain a measurement of dissolved oxygen, the alternate procedure will be documented in the field log book, along with a description of the circumstances requiring its use. Mention of trade names or commercial products in this operating procedure does not constitute endorsement or recommendation for use.

1.3 Documentation/Verification

This procedure was prepared by persons deemed technically competent by SESD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the SESD Local Area Network (LAN). The Document Control Coordinator (DCC) is responsible for ensuring the most recent version of the procedure is placed on the LAN and for maintaining records of review conducted prior to its issuance.

1.4 References

Benson, B.B., and Krause, D., Jr, 1980. The concentration and isotopic fractionation of gases dissolved in freshwater in equilibrium with the atmosphere—1. Oxygen: Limnology and Oceanography, v. 25, no. 4, p. 662–671.

Benson, B.B., and Krause, D., Jr, 1984. The concentration and isotopic fractionation of oxygen dissolved in freshwater and seawater in equilibrium with the atmosphere: Limnology and Oceanography, v. 29, no. 3, p. 620–632.

SESD Operating Procedure for Equipment Inventory and Management, SESDPROC-108, Most Recent Version

SESD Operating Procedure for Logbooks, SESDPROC-010, Most Recent Version

SESD Field Branches Quality Management Plan, SESDPLAN-001, Most Recent Version

COPY

USEPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 SESD, Athens, GA, Most Recent Version

USGS, 2013*a*. Dissolved Oxygen (ver. 3.0): U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6, sec. 6.2, *http://water.usgs.gov/owq/FieldManual/Chapter*6/6.2_v3.0.pdf.

USGS, 2013*b*. DOTABLES (ver. 3.5): Dissolved Oxygen Solubility Tables, *https://water.usgs.gov/software/DOTABLES/*.

1.5 General Precautions

1.5.1 Safety

Refer to the SESD Safety, Health and Environmental Management Program Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASPs) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. When using this procedure, minimize exposure to potential health hazards through the use of protective clothing, eye wear and gloves. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

Appropriate precautions should be observed when working in and around bodies of water and on boats. Be aware of fast flowing waters, waterway obstructions such as dams, and other vessels on the water.

COPY

2 Quality Control

All dissolved oxygen meters will be maintained and operated in accordance with the manufacturer's instructions and the SESD Operating Procedure for Equipment Inventory and Management (SESDPROC-108). Before a meter is utilized in the field, it will be calibrated and verified, according to Section 3.2 of this procedure, to ensure it is operating properly. These calibration and verification checks will be documented and maintained in a logbook.

For in-situ measurements, an instrument warm-up period appropriate for that instrument should be provided. Consult manufacturer's documentation for appropriate warm-up time.

The ambient temperature in the immediate vicinity of the meter should be measured and recorded in the field logbook to insure the instrument is operated within the manufacturer's specified range of operating temperatures. For instruments that are deployed for in-situ measurements, the temperature of the medium being monitored should be measured and recorded in the logbook prior to deployment. *In-situ monitoring equipment may be utilized in unattended deployments where autonomous logging may preclude temperature measurement prior to deployment. Because in situ instrumentation generally has a wide range of operating temperature, the field investigator may utilize professional judgment in determining if the operating environment is suitable for unattended deployment.*

Following instrument use, an end check should be performed using one of the techniques described in Section 3.2 to quantify potential instrument drift during use.

If at any time during a field investigation, it appears that the environmental conditions could jeopardize the quality of the measurement results, the measurements will be stopped. This will be documented in the field logbook.

COPY

3 Field Measurement of Dissolved Oxygen

3.1 General

Dissolved oxygen can be defined as the mass of molecular oxygen contained in a volume of water. The solubility of oxygen in water is dependent on the water temperature, salinity and atmospheric pressure.

- As the temperature of the water decreases, the solubility of oxygen increases.
- As salinity increases, the solubility of oxygen decreases.
- As atmospheric pressure decreases (altitude increases), the solubility of oxygen decreases.

Several methods for measurement of dissolved oxygen in water are available utilizing a variety of technologies. When measuring dissolved oxygen for compliance with the National Pollutant Discharge Elimination System (NPDES) Program, only approved methods will be used. Approved methods can be found in the Code of Federal Regulations (CFR) 40 CFR Part 136.

3.1.1 Clark Cell Probes

Clark cell probes utilize an oxygen permeable membrane that covers an electrolytic cell which consists of a cathode and an anode. The anode acts as a reference electrode. After passing through the permeable membrane, the oxygen is reduced by an applied potential voltage that is referenced to the anode. The reduction current at the cathode is directly proportional to the partial pressure of oxygen in liquid, expressed as %-air saturation. The concentration of oxygen, in mg/l, is calculated based on the %-air saturation reading and the solubility of oxygen in water at the sample temperature.

In general, sample collection using a DO probe requires only lowering the probe into the sample media and recording or logging the results. The probe should be lowered gently to prevent damage to the membrane and gently turned when initially lowered to remove any attached air bubbles. If the instrument requires the use of a stirrer, the stirrer should be turned on before recording any readings. Prior to use, the instrument should be calibrated and any manufacturer specified warm-up period should be observed.

3.1.2 Luminescent Probes

Luminescent dissolved oxygen probes employ a light emitting diode (LED) to provide incident light, which excites the oxygen-sensitive luminescent-dye

COPY

molecule substrate of the sensor. After dissipation of the excitation energy, longer-wavelength light is emitted (luminescence). The magnitude of steady-state luminescence (intensity) is measured by the sensor and is inversely proportional to the dissolved oxygen concentration.

Sample collection with this type of probe should follow the sample procedures described in the second paragraph of Section 3.1.2 for Clark Cell probes.

3.2 Calibration

Many brands of instruments are commercially available for *in-situ* measurement of dissolved oxygen using Clark cell probes and luminescent probes. The manufacturer's instruction manual should be consulted for specific procedures regarding their calibration, maintenance and use. Calibration of any measurement instrument must be conducted and/or verified prior to each use or on a daily basis, whichever is most appropriate.

In general, calibrations should be conducted at temperatures and pressures as close as possible to those of the sample media for the most accurate measurements. Due to the sensitivity of dissolved oxygen measurements to changes in temperature, the temperature probe or thermistor should be verified using a NIST traceable thermometer prior to each calibration. Most dissolved oxygen meters utilize a one-point calibration which is generally performed using either water-saturated air or air-saturated water. However, some optical DO meters are capable of a two-point calibration at 0% and 100% saturation, refer to Section 3.2.3 for applicability.

3.2.1 Water-Saturated Air Method

When using the water-saturated air method, the probes should be placed in a 100% relative humidity environment open to ambient air temperature and barometric pressure. Allow at least 10-15 minutes for the temperature and dissolved oxygen readings to equilibrate. Ensure that water droplets are removed from the luminescence cap or Clark cell membrane and thermistor before calibration. Refer to Section 3.5 for calibration verification procedure.

3.2.2 Air-Saturated Water Method

When using air-saturated water for calibration, an aeration device such as an aquarium pump with a diffusion stone should be placed in a vessel containing tap water. The water in the vessel should be aerated for a minimum of one hour at a

COPY

constant temperature. Saturation should be verified by placing the dissolved oxygen probe in the vessel and monitoring the temperature and dissolved oxygen readings for stabilization. Avoid placing the probe in the direct stream of air bubbles. Bubbles can accumulate on the probe surface and cause erroneous readings. Refer to Section 3.5 for calibration verification procedure.

3.2.3 Zero-DO Verification and 2-Point Calibration

It is recommended that a zero-DO verification is conducted periodically or when concentrations are expected to be below 1 mg/l (USGS, 2013*a*). A zero-DO solution can be prepared by dissolving 1 gram of sodium sulfite in 1 liter of deionized water. This should be made fresh weekly or as needed. If the unit is equipped with a wiper, it should be removed before immersing in zero-DO solution. The reading should not exceed a concentration of 0.2 mg/l dissolved oxygen in the zero-DO solution. For Clark cells that exceed this concentration, replace the electrolyte and membrane before repeating the zero-DO verification process. For optical probes that read above 0.2 mg/l in zero-DO solution, replace the sensor cap if it is expired or perform a 2-point calibration if applicable. Some optical DO probes are capable of 2-point calibrations using a zero-DO solution and the air-saturated water method discussed in Section 3.2.2. Refer to the manufacturer's instruction manual for the appropriate 2-point calibration procedure. Ensure that the probe is thoroughly rinsed of zero-DO solution after verification or calibration to avoid measurement interferences caused by residual sodium sulfite.

3.3 Maintenance

Maintenance procedures vary depending on the technology utilized by each instrument and the manufacturer. The manufacturer's instruction manual should be consulted for instrument specific procedures. Following are some general guidelines for maintaining dissolved oxygen meters:

- Inspect probes for damage prior to use.
- For Clark cell probes, membranes and electrolyte solution should be changed prior to each study, when feasible.
- Battery voltages should be checked. For meters that will be deployed unattended, new or fully charged batteries should be used for each study.
- All calibration and maintenance procedures performed should be thoroughly documented.

COPY

3.4 Conducting Field Measurement of Dissolved Oxygen

Following are guidelines for conducting field measurements of dissolved oxygen:

- Except as described in specific operating procedures, dissolved oxygen measurements should if possible be conducted *in-situ*.
- When measuring DO at distinct points in the water column, the probe should be allowed to equilibrate at each location prior to recording the measurement.
- In water bodies with a great deal of flow, a weight may be attached to the probe guard or support cable to insure the probe is maintained at the proper depth.
- Insure that the measurement location is representative of conditions within the water body or reach. Avoid measurements directly below turbulent sections or still water unless these conditions represent most of the water body or reach.
- The DO meter should be capable of auto-correcting for specific conductivity/salinity or a separate instrument should be used to measure specific conductivity/salinity so that the final DO measurement(s) can be corrected.

3.5 Operational Verification

A post-calibration and post-operation instrument verification check should be performed using one of the techniques described in Sections 3.2.1 and 3.2.2 or 3.2.3 (for 2-point calibrations) to quantify potential instrument drift during use. A verification check will be performed after a calibration and at the end of all measurements.

It may be appropriate to verify the calibration of a DO meter periodically during the course of a day's measurements when conducting individual measurements. A DO probe may be re-calibrated throughout the day if drift is occurring. The verification DO concentration should be measured and recorded in the field logbook prior to any instrument adjustment. For long-term deployments a post-operation verification should be performed at the end of the deployment.

Verification is done by comparing a post-calibration or post-operation reading at 100% saturation conditions to a DO solubility table value at the ambient air/water temperature and barometric pressure. Post-calibration and post-operation readings should not exceed a maximum of ± 0.2 mg/l from the DO solubility table value. DO solubility tables can be accessed via the U.S. Geological Survey's DOTABLES software (USGS, 2013*b*) which are based on equations from Benson and Krause (1980; 1984).

COPY

U.S. Environmental Protection Agency
Region 4, Science and Ecosystem Support Division
Athens, Georgia

OPERATING PROCEDURE

Title: **Field Measurement of Oxidation-Reduction Potential (ORP)**

Effective Date: April 26, 2017	**Number:** SESDPROC-113-R2

Author

Name: Brian Striggow
Title: Environmental Engineer

Signature: B Date: 4-20-17

Approval

Name: John Deatrick
Title: Chief, Field Services Branch

Signature: John Deatrick Date: 4/24/17

Name: Hunter Johnson
Title: Field Quality Manager, Science and Ecosystem Support Division

Signature: Date: 4/20/17

COPY

Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the SESD Document Control Coordinator on the SESD local area network (LAN).

History	Effective Date
SESDPROC-113-R2, *Field Measurement of Oxidation-Reduction Potential (ORP)*, replaces SESDPROC-013-R1 **General:** Corrected any typographical, grammatical, and/or editorial errors. **Title Page:** Changed the EIB Chief from Danny France to the Field Services Branch Chief John Deatrick, and the Field Quality Manager from Bobby Lewis to Hunter Johnson. **Section 2.2**: Figure 6 modified for clarity. **Section 3.3**: Use of overtopping cell described consistent with current practice.	April 26, 2017
SESDPROC-113-R1, *Field Measurement of Oxidation-Reduction Potential (ORP)*, replaces SESDPROC-013-R0	January 29, 2013
SESDPROC-113-R0, *Field Measurement of Oxidation-Reduction Potential (ORP)*, Original Issue	August 7, 2009

COPY

TABLE OF CONTENTS

1 General Information 4

1.1 Purpose 4

1.2 Scope/Application 4

1.3 Documentation/Verification 4

1.4 References 4

1.5 General Considerations 5

1.5.1 Safety 5

1.5.2 Records 6

1.5.3 Shipping 6

2 Background 7

2.1 General 7

2.2 Instrumentation 8

2.3 Redox Chemistry 14

2.4 Applications 15

2.5 Limitations 16

3 Methodology 18

3.1 Standard Solutions 18

3.2 Verification and Calibration 19

3.3 Measurement 20

3.4 Reporting 21

COPY

1 General Information

1.1 Purpose

This document describes procedures, methods and considerations to be used and observed when conducting field Oxidation-Reduction Potential (ORP) measurements in aqueous environmental media, including groundwater, surface water and certain wastewater. The measurement of soil ORP is a non-standard measurement and procedures should be developed on a project-specific basis.

1.2 Scope/Application

This document describes procedures generic to all ORP measurement methods to be used by Science and Ecosystem Support Division (SESD) field personnel when collecting and handling samples in the field. On the occasion SESD personnel determine that any of the procedures described in this section are inappropriate, inadequate or impractical and that another procedure must be used to obtain an ORP measurement, the variant procedure will be documented in the field logbook, along with a description of the circumstances requiring its use. Mention of trade names or commercial products in this operating procedure does not constitute endorsement or recommendation for use.

1.3 Documentation/Verification

This procedure was prepared by persons deemed technically competent by SESD management, based on their knowledge, skills and abilities and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the SESD local area network (LAN). The Document Control Coordinator (DCC) is responsible for ensuring the most recent version of the procedure is placed on the SESD LAN and for maintaining records of review conducted prior to its issuance.

1.4 References

Faulkner, S.P., W.H. Patrick, Jr., and R.P. Gambrell. 1989. Field techniques for measuring wetland soil parameters. Soil Sci. Soc. Am. J. 53:883-890.

Megonigal, J.P., W.H. Patrick, Jr., and S.P. Faulkner. 1993. Wetland identification in seasonally flooded forest soils: soil morphology and redox dynamics. Soil Sci. Soc. Am. J. 57:140-149.

D.K. Nordstrom and F.D. Wilde. 2005. National Field Manual, Chapter A6, Section 6.5: Reduction Oxidation Potential (Electrode Method). USGS.

Pankow, J.E. 1991. Aquatic chemistry concepts. Lewis Publishers, Inc. Cheleas, Michigan. USA.

Pruitt, B.A. 2001. Hydrologic and soil conditions across hydrogeomorphic settings. Dissertation. The University of Georgia, Athens, GA. USA.

COPY

Soil Survey Staff. 1998. Keys to soil taxonomy, 8th Edition. United States Department of Agriculture, Natural Resources Conservation Service, Washington, DC. USA.

Standard Methods. 1992. Standard Methods for the Examination of Water and Wastewater, 18th Edition. Prepared and published jointly by: American Public Health Association, American Water Works Association, Water Environment Federation. American Public Health Association, Washington, DC. USA.

Stumm, W. and J.J. Morgan. 1981. Aquatic chemistry: an introduction emphasizing chemical equilibra in natural waters, 2nd Ed. John Wiley & Sons, New York. USA.

USEPA. 2001. Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. Region 4 Science and Ecosystem Support Division, Athens, GA.

USEPA. 2007. Safety, Health and Environmental Management Program Procedures and Policy Manual. Science and Ecosystem Support Division, Region 4, Athens, GA.

Wikipedia entry. Reduction Potential. http://en.wikipedia.org/wiki/Reduction_potential. Retrieved April 2, 2009.

1.5 General Considerations

1.5.1 Safety

Proper safety precautions must be observed when verifying or calibrating instruments for measurement of Oxidation-Reduction Potential. Refer to the SESD Safety, Health and Environmental Management Program Procedures and Policy Manual (most recent version) and any pertinent site-specific Health and Safety Plans (HASP) for guidelines on safety precautions. These guidelines should be used to complement the judgment of an experienced professional.

Reagents commonly used in the preparation of ORP calibration standards are toxic and require care when handling. When using this procedure, avoid exposure to these materials through the use of protective clothing, eye wear and gloves. Safety precautions when handling and preparing verification solutions should include gloves and eyewear to prevent dermal and eye contact, and a mask to avoid inhaling dust particles when handling dry materials. Vigorous flushing should be used if the reagents or solutions come in contact with skin or eyes. Following is specific information on commonly used solutions. The application of the solutions is described in detail in Section 3.1, Standard Solutions, of this procedure.

- Quinhydrone (CAS# 106-34-3) is a skin and respiratory irritant and is poisonous if ingested. Safety precautions when handling quinhydrone should include gloves to prevent dermal contact and a mask to avoid inhaling dust particles when mixing dry

COPY

material to prepare calibration standards. Vigorous flushing should be used if concentrated material comes in contact with skin or eyes.

- Zobell's solution is also an irritant and toxic if ingested. The same handling precautions apply when mixing and using Zobell's solution as when using quinhydrone. Zobell's reacts with acid to form harmful byproducts, including hydrocyanide gas.

- Light's solution contains ferro- and ferric-cyanide compounds in sulfuric acid. The components are toxic and burns are possible from contact with this solution.

- Potassium iodide solutions have lower toxicity than most calibration solution options. General ingestion, skin contact, and eye contact precautions apply.

Unused quinhydrone, Zobell's, Light's or other calibration reagents and solutions should be returned to SESD for disposal in accordance with the SESD Safety, Health, and Environmental Management Plan (SHEMP).

1.5.2 Records

Documentation of field activities is done in a bound logbook. All records, including a unique, traceable identifier for the instrument, should be entered according to the procedures outlined in the SESD Operating Procedure for Logbooks (SESDPROC-010, most recent version) and the SESD Operating Procedure for Equipment Inventory and Management, (SESDPROC-108, most recent version).

All field ORP measurements pertinent to the sampling event should be recorded in the field logbook for the event as outlined in the SESD Operating Procedure for Logbooks (SESDPROC-010, most recent version), or managed electronically with appropriate backups as described in SESD Operating Procedure for Control of Records (SESDPROC-002, most recent version).

1.5.3 Shipping

Shipped material shall conform to all U.S. Department of Transportation (DOT) rules of shipment found in Title 49 of the Code of Federal Regulations (49 CFR parts 171 to 179), and/or International Air Transportation Association (IATA) hazardous materials shipping requirements found in the current edition of IATA's Dangerous Goods Regulations.

All shipping documents, such as bills of lading, will be retained by the project leader and stored in a secure place.

COPY

2 Background

2.1 General

Oxidation is the process of liberating electrons or gaining oxygen. Examples of oxidation include conversion of elemental iron to rust, elemental sulfur to sulfate, and elemental hydrogen to water (Pankow 1991). Reduction is the process of gaining electrons resulting in the charge on some atomic unit in the species to be reduced. Oxidation-reduction potential (ORP) or redox potential (hereafter, referred to as redox) is a measure of the intensity or activity of an aqueous environment or soil to mediate reactions of important elements in biological systems (e.g., O, N, Mn, Fe, S, and C) and other metallic elements.

Considerable confusion arises on the use of the terms oxidation and reduction as they apply to the media under study. The following introduction reproduced from an online 'Wikipedia' article on the topic lucidly explains their relationship in ORP measurement:

> **Reduction potential** (also known as **redox potential**, **oxidation / reduction potential** or **ORP**) is the tendency of a chemical species to acquire electrons and thereby be reduced. Each species has its own intrinsic reduction potential; the more positive the potential, the greater the species' affinity for electrons and tendency to be reduced.
>
> In aqueous solutions, the reduction potential is the tendency of the solution to either gain or lose electrons when it is subject to change by introduction of a new species. A solution with a higher (more positive) reduction potential than the new species will have a tendency to gain electrons from the new species (i.e. to be reduced by oxidizing the new species) and a solution with a lower (more negative) reduction potential will have a tendency to lose electrons to the new species (i.e. to be oxidized by reducing the new species). Just as the transfer of hydrogen ions between chemical species determines the pH of an aqueous solution, the transfer of electrons between chemical species determines the reduction potential of an aqueous solution. Like pH, the reduction potential represents an intensity factor. It does not characterize the capacity of the system for oxidation or reduction, in much the same way that pH does not characterize the buffering capacity.

In short, a numerically positive redox potential or ORP represents an environment conducive to the oxidation of an introduced substance by reduction of the original media.

COPY

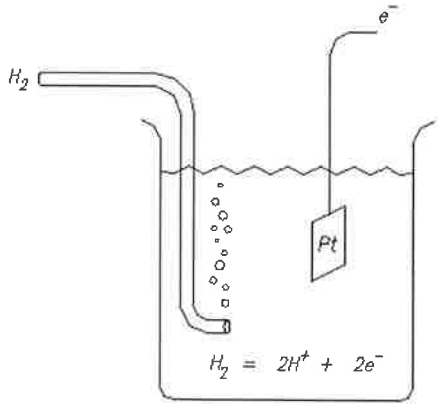
2.2 Instrumentation

ORP measurement systems are a practical implementation of electrochemical cells, which use metal electrodes in a solution to generate an electric current or voltage. If a platinum electrode is immersed in water with hydrogen bubbled into the solution, the H^2 is oxidized as follows:

$$H^2 = 2H^+ + 2e^-$$

In the electrochemical half-cell illustrated below in Fig.1, hydrogen gas oxidizes to hydrogen ions and free electrons, comprising an oxidation-reduction couple. This couple reaches an equilibrium state that maintains the reference potential of the electrode. The electric potential develops on the wire connected to the platinum electrode, but is difficult to measure in practice in the isolated half-cell. However, when used in a complete electrochemical cell, the cell illustrated is used as a reference to measure other half-cells against, and is called a Standard Hydrogen Electrode (SHE).

Figure 1

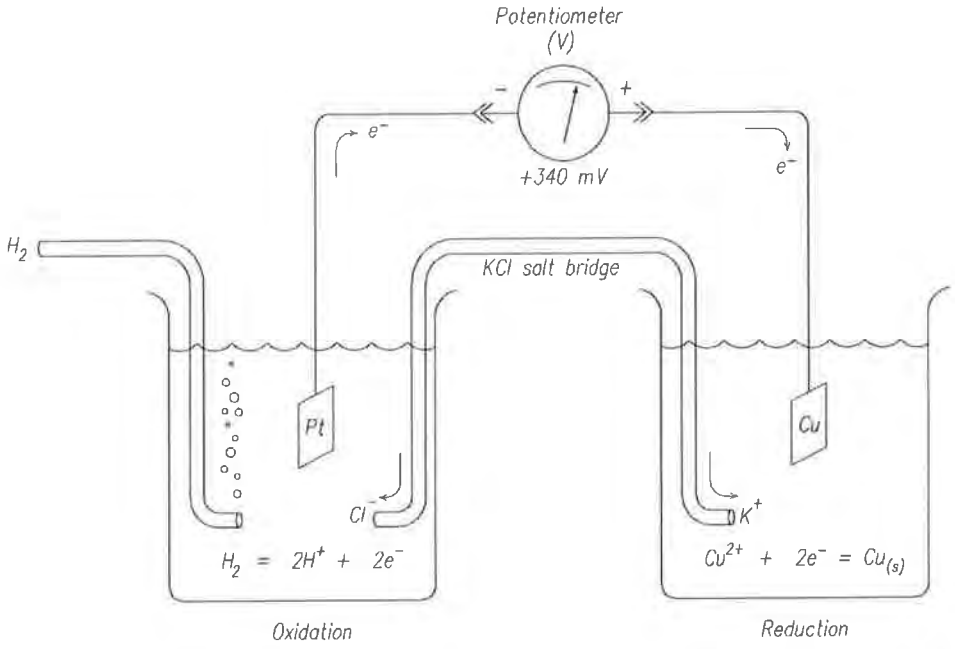


Hydrogen Half-Cell

If, as shown in Figure 2, a SHE is connected with a salt bridge to a second half-cell in which a reduction reaction is taking place, the electric potential between the two cells can be measured. In the case shown, the potential of the right cell will be +0.34 Volts in reference to the standard hydrogen electrode on the left. This would be represented as an Oxidation Reduction Potential (ORP) of +340mV on the hydrogen scale, or simply as Eh = +340mV.

COPY

Figure 2

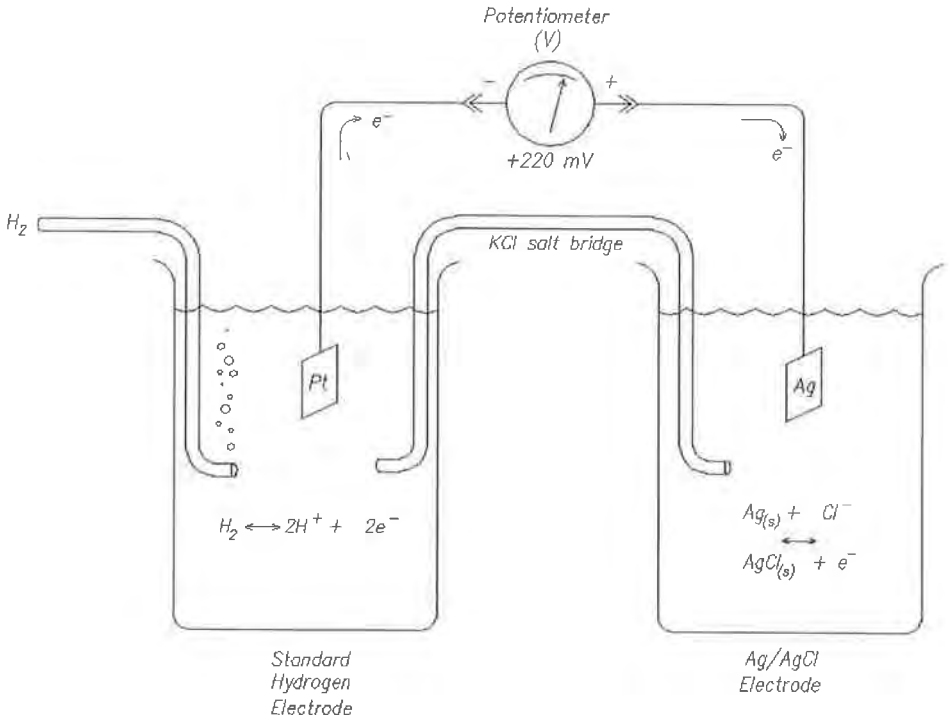


In field practice, the hydrogen electrode is difficult to reproduce. To conduct field measurements, a reference electrode is needed that is simple to maintain and will generate a potential that can be referenced to the standard hydrogen electrode. These requirements are met by the Saturated Calomel Electrode (SCE) and the Silver/Silver Chloride Electrode (SSCE - the SSCE is also commonly identified as an Ag/AgCl electrode). The SCE contains a small amount of elemental mercury, and while useful for certain applications, would rarely be used at SESD. The SSCE or Ag/AgCl electrode is generally used as the reference cell in SESD instrumentation.

In Figure 3 below, a SHE is connected to an Ag/AgCl electrode. In this example of an electrochemical cell, both cells reach an equilibrium potential. At that equilibrium state, the potential of the Ag/AgCl cell is 220mV more positive than the standard hydrogen electrode.

COPY

Figure 3



This half-cell potential of the Ag/AgCl electrode in reference to the SHE is used to convert measurements taken with an Ag/AgCl reference back to the hydrogen scale. While the laboratory Ag/AgCl half-cell shown has a potential of +220mV, practical reference cells have varying potentials based on temperature and filling solutions as shown in Table 1 below.

Table 1

Half-cell Potential of Ag/AgCl reference electrode

derived from USGS NFM, Table 6.5.2 (9/2005)

	Molarity of KCl filling solution			
T(°C)	3M	3.3M*	3.5M	Sat/4M
10	220	217	215	214
15	216	214	212	209
20	213	210	208	204
25	209	207	205	199
30	205	203	201	194
35	202	199	197	189
40	198	195	193	184

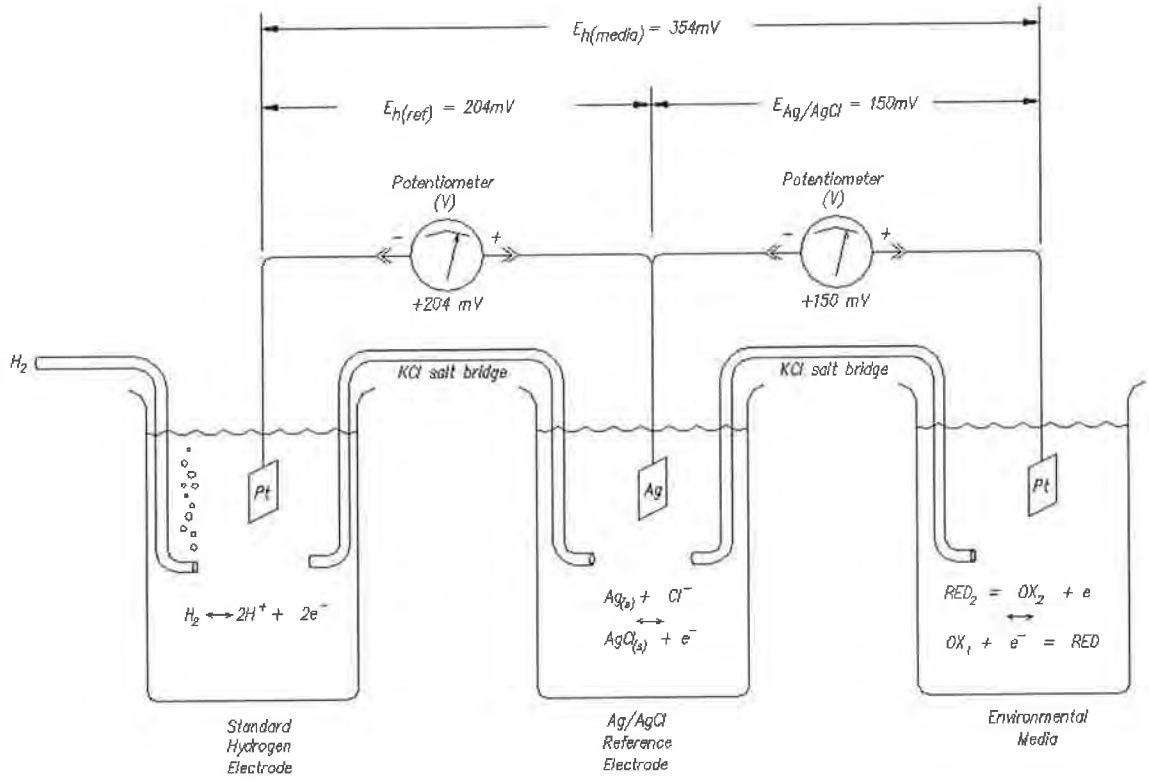
*interpolated value

COPY

Note: YSI sondes and Thermo electrodes typically use 4M KCl filling solutions. Eureka sondes typically use 3.3M KCl filling solutions.

In Figure 4, below, the relationship between a hydrogen electrode, a reference electrode, and a platinum sensing electrode in an arbitrary media is shown. In this case, the ORP of the media in reference to the silver/silver chloride electrode is 150mV. To obtain Eh, the potential of the reference electrode in relation to a hydrogen electrode is added to the potential of the sensing electrode in relation to the reference electrode. In practice, the potential of the reference electrode in relation to a hydrogen electrode is not measured, but obtained from Table 1 above.

Figure 4

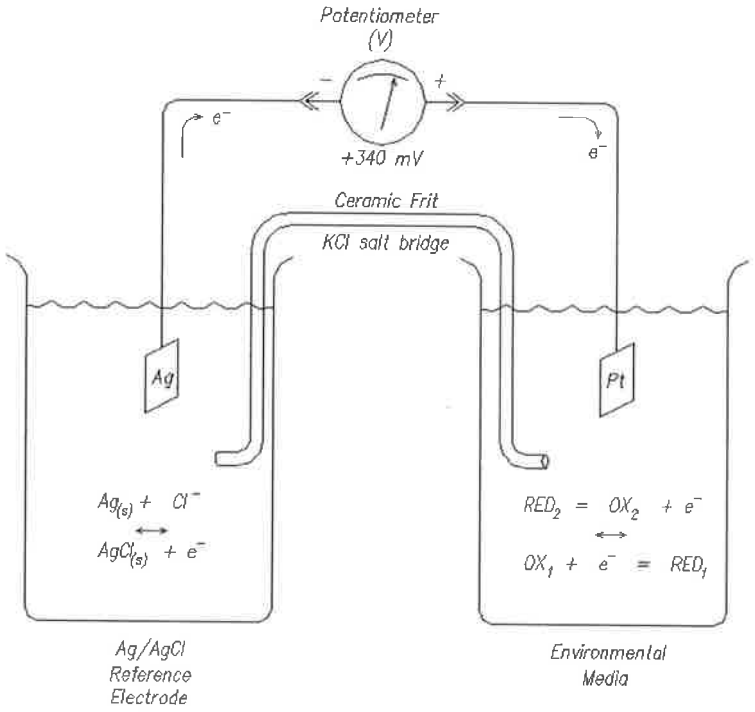


In Figure 5 below, a field instrument is represented as separate electrochemical cells. The

COPY

Ag/AgCl reference electrode uses a ceramic frit or other means to provide the essential salt bridge to the environmental media. The platinum sensing electrode is immersed in the environmental media and connected internally in the instrument to measure the potential (voltage) between the two electrodes.

Figure 5



In this illustration, the ORP is measured as 340 mV. This measurement is made in reference to the Ag/AgCl reference electrode and would be reported as such, or as $E_{Ag/AgCl}$ = 340mV.

In some cases it will be desirable to report the reading on the hydrogen scale, or Eh. To do so, the potential of the reference electrode against the SHE, obtained from Table 1, is added to $E_{Ag/AgCl}$. For our example:

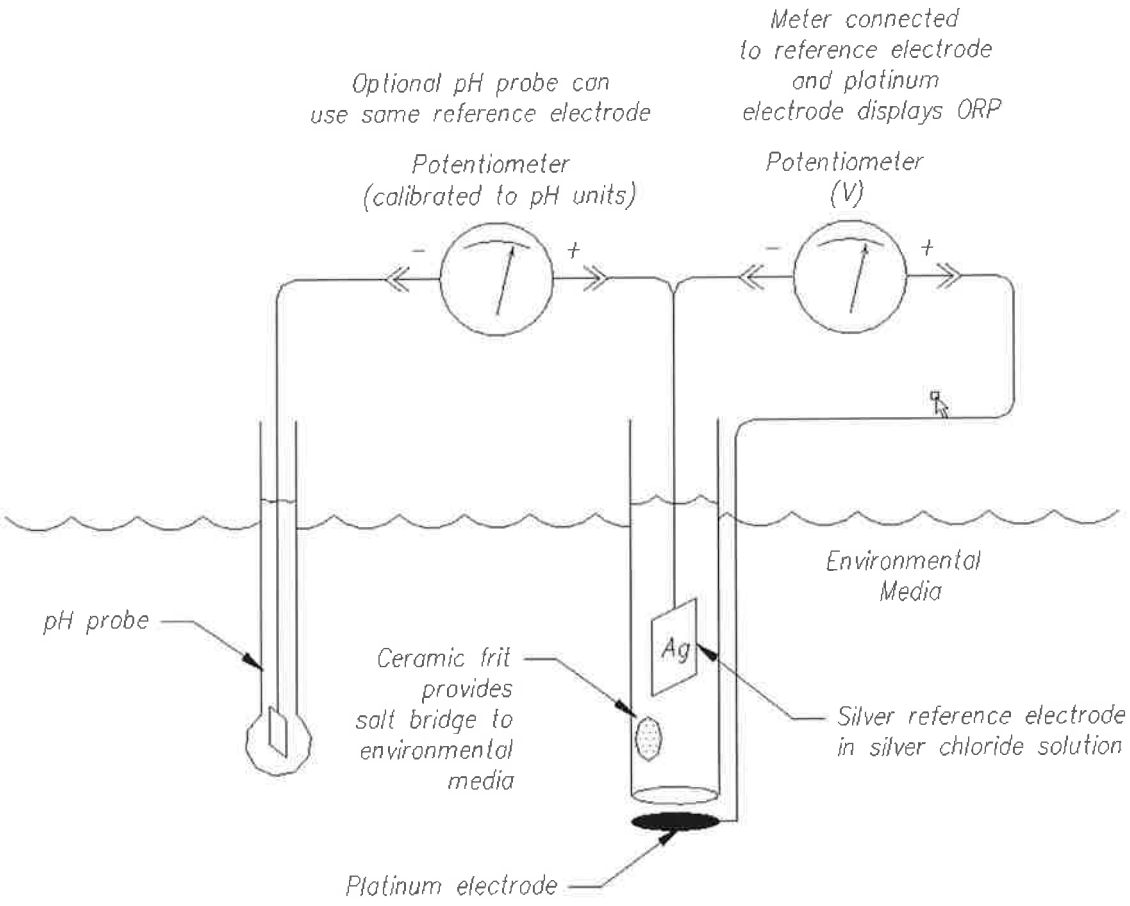
	340 mv	Measured ORP ($E_{Ag/AgCl}$) of sample
+	204 mV	Eh of Ag/AgCl electrode (ORP of Ag/AgCl electrode referenced to SHE)
	544 mV	Eh of sample

Both the +340 mV field reading and the adjusted +544 mV Eh can properly be referred to as ORP results. It is only through specifying the reference scale that the ambiguity can be eliminated.

COPY

In Figure 6, below, the theoretical cells shown above have been configured as a practical field instrument. The salt bridge is commonly provided by a ceramic frit connecting the environmental media to the reference electrode. In multi-parameter sondes, the pH probe commonly uses the same reference electrode as the ORP probe.

Figure 6



COPY

Redox Chemistry

In acid-base chemistry, the pH of a system is defined as the negative logarithm of the hydrogen ion activity (simplified in practice to the hydrogen ion concentration):

$$pH = -\log \{H^+\}$$

Similarly, Pankow (1991) described the negative logarithm of the electron activity (pe) as the master variable for describing the equilibrium position for all redox couples in a given system:

$$pe \ / \ - \log \{e^-\}$$

It can be shown (Pankow) that pe is related to Eh by

$$Eh = pe*(2.303*R*T)/F$$

Where:

R = gas constant = 8.314 J K^{-1} mol^{-1}
T = temperature, °K
F = Faraday constant = 96.485*10^3 C mol^{-1}

At 25°C (298°K) this simplifies to

$$E_H = pe * 0.05916$$

And

$$pe = E_H \ / 0.05916$$

According to Faulkner et al. (1989) redox is a quantitative measure of electron availability and is indicative of the intensity of oxidation or reduction in both chemical and biological systems. When based on a hydrogen scale, redox (E_H) is derived from the Nernst Equation (Stumm and Morgan 1981):

$$E_H = E_H^o + 2.3 \ H \ (R \ H \ T)/nF \ H \log (\vartheta_i \{ox\}^{ni}/\vartheta_j \{red\}^{nj})$$

Where:

E_H^o = potential of reference, mV
R = gas constant = 81.987 cal deg^{-1} $mole^{-1}$
T = temperature, °K
n = number of moles of electrons transferred
F = Faraday constant = 23.061 cal/mole-mv
{ox} and {red} = activity of the oxidants and reductants, respectively

COPY

2.4 Applications

When interpreted properly, redox combined with other conventional water quality parameters is useful in developing a more complete understanding of water chemistry. Several applications of redox are identified below:

1. Redox could be viewed as an extension of the oxygen scale. In this model, the DO probe spans the aerobic scale and the redox probe extends that scale to measure anaerobic conditions. Inferences to geochemistry and chemical speciation can be made from the oxidative state of the system. Application to metal sequestration, metal-iron, -sulfide, - methane complexation, and the subsequent bioaccumulation potential is possible.
2. Redox can be used to identify anaerobiosis at or near the water column and sediment interface in streams, lakes, and estuaries.
3. Redox may be useful in determination of stream jurisdiction and wetland delineation in that it can indicate conditions of soil saturation.
4. Based on redox, a pe (or EH) vs. pH stability diagram can be developed to aid in nutrient exchange studies including the timing, release, and partitioning of important water and sediment quality pollutants such as nitrogen and phosphorus species. Most importantly, redox can be used to address error associated with chamber-effect during closed chamber measurements of the water-sediment interface. Redox probes placed inside the contact chamber and inserted approximately ten centimeters into the underlying sediment can be used to monitor changes in sediment redox caused by the chamber, and steps can be taken to reduce chamber-effect.
5. Redox may be useful in establishing water and sediment quality standards applicable to wetlands.
6. Redox is used to assess the potential of a groundwater system to support various in situ reactions with contaminants, such as reductive dechlorination of chlorinated solvents.
7. Redox can provide a useful indicator of conditions that might compromise the performance of Clark-type dissolved oxygen (DO) probes. In general, anaerobic conditions occur at a redox range of +150 mV to +300 mV (pH-dependent and adjusted to hydrogen reference electrode). When redox drops below this level, DO measurements as determined with a Clarke-type probe are highly suspect as the semi-permeable membrane does not discriminate between partial O_2 and sulfides. Consequently, the meter may be reading sulfides.

COPY

2.5 Limitations

In most environmental media, redox reactions will not reach equilibrium due to low concentrations or multiple redox species. Consequently, redox measurements can generally be considered semi-quantitative in environmental media, unless certain conditions exist.

The USGS in the Interferences and Limitations Section 6.5.3A of their National Field Manual succinctly describe some of the issues encountered in the application of ORP measurements. This section is reproduced here, unedited:

> 6.5.3.A INTERFERENCES AND LIMITATIONS
>
> *Measurements should not be carried out without an awareness of the interferences and limitations inherent in the method.*
>
> - *Organic matter and sulfide may cause contamination of the electrode surface, salt bridge, or internal electrolyte, which can cause drift or erratic performance when reference electrodes are used (American Public Health Association and others, 2001).*
>
> - *Hydrogen sulfide can produce a coating on the platinum electrode that interferes with the measurement if the electrode is left in sulfide-rich water for several hours (Whitfield, 1974; Sato, 1960).*
>
> - *The platinum single and combination redox electrodes may yield unstable readings in solutions containing chromium, uranium, vanadium, or titanium ions and other ions that are stronger reducing agents than hydrogen or platinum (Orion Research Instruction Manual, written commun., 1991).*
>
> - *Do not insert redox electrodes into iron-rich waters directly after the electrode(s) contact ZoBell's. An insoluble blue precipitate coats the electrode surface because of an immediate reaction between ferro- and ferricyanide ions in ZoBell's with ferrous and ferric ions in the sample water, causing erratic readings.*
>
> *Many elements with more than one oxidation state do not exhibit reversible behavior at the platinum electrode surface and some systems will give mixed potentials, depending on the presence of several different couples (Barcelona and others, 1989; Bricker, 1982, p. 59–65; Stumm and Morgan, 1981, p. 490–495; Bricker, 1965, p. 65). Methane, bicarbonate, nitrogen gas, sulfate, and dissolved oxygen generally are not in equilibrium with platinum electrodes (Berner, 1981).*
>
> **TECHNICAL NOTE:**
>
> *Misconceptions regarding the analogy between Eh (pe) and pH as master variables and limitations on the interpretation of Eh measurements are explained in Hostettler (1984), Lindberg and Runnells (1984), Thorstenson (1984), and Berner (1981). To summarize:*

COPY

(1) Hydrated electrons do not exist in meaningful concentrations in most aqueous systems—in contrast, pH represents real activities of hydrated protons. Eh may be expressed as pe (the negative logarithm of the electron activity), but conversion to pe offers no advantage when dealing with measured potentials.

(2) Do not assume that redox species coexist in equilibrium. Many situations have been documented in which dissolved oxygen coexists with hydrogen sulfide, methane, and ferrous iron.

- *The practicality of Eh measurements is limited to iron in acidic mine waters and sulfide in waters undergoing sulfate reduction.*

- *Other redox species are not sufficiently electroactive to establish an equilibrium potential at the surface of the conducting electrode.*

(3) A single redox potential cannot be assigned to a disequilibrium system, nor can it be assigned to a water sample without specifying the particular redox species to which it refers. Different redox elements (iron, manganese, sulfur, selenium, arsenic) tend not to reach overall equilibrium in most natural water systems; therefore, a single Eh measurement generally does not represent the system.

COPY

3 Methodology

3.1 Standard Solutions

Care should be taken not to contaminate standards and samples and to verify the expiration date of all standards prior to use. All meters should be verified or calibrated according to the manufacturer's procedures.

Standard solutions for calibration and verification should be selected to meet project requirements. SESD generally maintains a stock of Zobell's solution suitable for most projects. The characteristics and use of the common standard solutions are described below.

- Zobell's solution contains potassium ferri- and ferro- cyanide compounds. The solution is available as prepared solutions or premeasured reagents for mixing by the user. Zobell's has moderate toxicity but will react with acid to form harmful byproducts, including hydrocyanide gas. It has a shelf life ranging from several days to several months depending on the manufacturer. Stock and working solutions of Zobell's should be stored in dark bottles due to its light sensitivity.

- Quinhydrone solutions are mixed at the time of use by adding quinhydrone to pH 4 or pH 7 buffers. At 25°C, the E_h of quinhydrone pH 4 and pH 7 verification solutions are 462mV and 285mV respectively. An advantage of quinhydrone solutions is that they offer a span of calibration points that may be appropriate for particular applications. Quinhydrone is a lightly 'poised' solution in that it offers less driving force towards the calibration point: a compromised instrument is more likely to be revealed in a quinhydrone calibration. A quinhydrone calibration/verification solution is created by adding 10g of quinhydrone to 1L of pH 4 or pH 7 buffer solution (ASTM D1498). The solutions are mixed on a magnetic mixing plate for a minimum of 15 minutes to create a saturated solution with undissolved crystals remaining. Quinhydrone solutions are usable for 8 hrs from the time of mixing.

- Light's solution consists of ferrous and ferric ammonium sulphate in sulphuric acid. The solution would rarely be used at SESD due to its high acidity and associated handling difficulty. Spent solutions with a pH<2 would be regulated as a hazardous waste. Light's is a highly poised solution that may allow a marginally functioning electrode to pass calibration.

- A prepared potassium iodide solution is available which has low toxicity and a long shelf life. The solution may stain clothing or surfaces if spilled.

COPY

3.2 Verification and Calibration

ORP instruments may be **verified** or **calibrated**, depending on the application. The approach chosen should be selected based on project needs and information presented in Section 2.4., Limitations. Standard laboratory practice in making ORP measurements is to **verify** the accuracy of the instrument prior to use, and this practice should be followed when true quantitative results are required. In a **verification,** the instrument in its direct-reading mode is checked against a standard solution in a pass/no-pass test, and no corrections are applied to subsequent measurements. In most applications, the ORP information is used semi-quantitatively and for these applications, the instruments may be **calibrated** to the standard solutions. In an instrument **calibration**, the instrument probe is placed in the standard solution and the difference between the standard measurement and the known ORP value of the standard is used by the instrument to make adjustments to the subsequent measurements.

In **verification** of an ORP instrument, the instrument is set to absolute mV reading mode or the internal calibration offset is zeroed out. The instrument probe should then be placed in the standard solution and the reading verified to fall within +/-10mV of the predicted reading for the standard. Instruments with single-purpose electrodes are most suitable for this approach. If the instrument fails the verification, standard solution quality should be considered and instrument maintenance performed per the manufacturer's procedures.

In most SESD field practice, the end data use is semi-quantitative. In this case, the instruments can be **calibrated** to standard solutions appropriate for the project using the manufacturer's recommended procedure. One minute after the calibration, the instrument should display a stable reading within +/-10mV of the predicted reading. An instrument failing this test should be recalibrated to determine if the problem is inadequate equilibration time. In the event of continued instrument failure, aging or contamination of the standard solution should be considered. Subsequently the electrode should be serviced according to the manufacturer's procedures. Common service procedures include cleaning the platinum electrode with mild abrasives or acids and refilling or replacing the reference electrode.

Prior to a mobilization, all ORP instruments will be checked for proper operation and verified or calibrated against standard solutions. During the field mobilization, each instrument will be calibrated or verified prior to, and verified after, each day's use or deployment.

Even though it is not necessary to re-calibrate ORP instrument at regular intervals during the day, it may be appropriate to occasionally perform operational checks to determine if site conditions, such as an extreme temperature change or submersion of a filling solution port have impacted the instrument's performance. If an operational check is warranted, the field operator should follow the appropriate verification/calibration steps as described above.

The predicted ORP values of standard solutions will be obtained from the manufacturer of prepared solutions, literature, or appropriate values listed in this procedure. Care is in order, as the predicted ORP value is specific for the type of reference electrode used by the probe (either Ag/AgCl or calomel) and the molarity of the filling solution in the reference electrode. To use the

COPY

solution with another electrode or filling solution, the expected ORP readings for the solution should be converted to Eh for the probes intended for the solution as per the Reporting section of this procedure. Then a table can be compiled for the electrode in use by subtracting the $E_{h,ref}$ for the electrode and filling solution in use. This will be done at the Field Equipment Center (FEC) for the solutions stocked.

Verification solutions should be managed per the manufacturer's directions regarding storage and handling. After instrument verification or calibration, the solution cannot be returned to the stock solution container, although a separate container of working solution can be maintained.

Spent solutions and working solutions should be returned from the field to the SESD laboratory for proper disposal by the SHEMP, or handled as directed by the SHEMP. Properly handled stock solutions may be returned to the FEC for use at that facility.

3.3 Measurement

ORP measurements should be conducted in a fashion that prevents the addition or loss of any potential oxidants or reductants. Results could be compromised by exposing the sample to air or allowing H_2S to off-gas from anoxic samples. Like dissolved oxygen measurements, ORP measurements should be conducted in situ or by using a flow-through cell evacuated of air (see the SESD Operating Procedure for Field Measurement of Dissolved Oxygen (SESDPROC-106, most recent version). Good results are commonly obtained with the use of an overtopping cell where the environmental media is pumped into the bottom of a narrow cup (generally field fabricated from a sample container) containing the instrument sensors. The sensors are continually flushed with fresh media as the cup is allowed to overflow. Caution should be exercised at very low flow rates where the media in the cup could potentially re-oxygenate.

When using multi-parameter probes for ORP measurements, the general guidelines for probe deployment described in the SESD Operating Procedure for Field Measurement of Dissolved Oxygen (SESDPROC-106, most recent version) and the SESD Operating Procedure for In situ Water Quality Monitoring (SESDPROC-111, most recent version) apply.

ORP probes must be operated and maintained in accordance with the manufacturer's instructions. Reference electrodes in multi-parameter probes may require regular filling or replacement. Single parameter ORP electrodes may require regular filling and operation in an upright position to assure that proper salt bridge flow is maintained. Platinum electrode surfaces are easily contaminated and polishing or cleaning of the electrodes should be performed as recommended by the manufacturer.

Measurements in field logbooks should be recorded to the nearest mV. The type of reference electrode in use and its filling solution should be recorded in at least one logbook as part of the field project records.

ORP is a temperature sensitive measurement, but ORP instruments are not temperature compensated. Consequently, the media temperature should always be recorded at the same time

COPY

as the ORP is recorded. Likewise, as ORP is often pH dependent, pH should also be recorded at the time of ORP measurement.

3.4 Reporting

In the absence of a specified reference scale, ORP data has no meaning. Therefore, the reference scale used should always be specified in reporting or discussing the ORP data. ORP measurements converted to a hydrogen scale can be reported as "E_h". Data reported as the direct field measurement without correction might be described as "ORP referenced to Ag/AgCl electrode" or "$E_{Ag/AgCl}$". The expectations of the data user should be ascertained or the measurements should be reported in both systems.

To apply corrections to obtain E_h from the direct field measurement, the known half-cell potential of the reference electrode is added to the recorded field ORP value:

$$E_{h,sample} = ORP_{sample} + \text{half-cell potential of reference electrode}$$

The following table, reproduced from Section 2.2, presents the half-cell potential of a silver/silver chloride reference electrode at various temperatures and with various molarities of KCl filling solutions.

Table 1

Half-cell Potential of Ag/AgCl reference electrode

derived from USGS NFM, Table 6.5.2 (9/2005)

	Molarity of KCl filling solution			
T(°C)	3M	3.3M*	3.5M	Sat/4M
10	220	217	215	214
15	216	214	212	209
20	213	210	208	204
25	209	207	205	199
30	205	203	201	194
35	202	199	197	189
40	198	195	193	184

*interpolated value

Note: YSI sondes and Thermo electrodes typically use 4M KCl filling solutions. Eureka sondes typically use 3.3M KCl filling solutions

Example:

A multi-parameter probe with a silver/silver chloride reference electrode and 4M KCl filling solution is used to record a stream ORP measurement of 146mV. The stream temperature is recorded as 15°C.

COPY

From the above table, the half-cell potential of an Ag/AgCl reference electrode filled with 4M KCl is 209mV at 15°C. Then:

$$E_{h,sample} = ORP_{Ag/AgCl,sample} + \text{half-cell potential of Ag/AgCl reference electrode}$$

$$E_{h,sample} = 146mV + 209mV$$

$$E_{h,sample} = 355mV$$

As noted in Section 3.3, Measurement, ORP measurements are sensitive to temperature, and may be sensitive to pH. As the instruments do not compensate for these parameters, ORP data should always be reported with the temperature and pH of the media at the time of measurement.

Final reporting values of Eh or ORP should be rounded to the nearest 10mV. The following spreadsheet formula can perform the rounding of an interim result located in spreadsheet cell 'A1':

=INT(A1/10+0.5)*10

EXHIBIT P-4

FIELD EQUIPMENT CLEANING AND DECONTAMINATION

(LSASDPROC-205-R4)

Region 4 U.S. Environmental Protection Agency Laboratory Services and Applied Science Division Athens, Georgia	
Operating Procedure	
Title: Field Equipment Cleaning and Decontamination	ID: LSASDPROC-205-R4
Issuing Authority: LSASD Field Branch Chief	
Effective Date: June 22, 2020	Review Due Date: June 22, 2023

Purpose

This procedure is to be used by Region 4 Laboratory Services and Applied Science Division staff . This document describes general and specific procedures, methods and considerations to be used and observed when cleaning and decontaminating sampling equipment during the course of field investigations. This procedure is to be used by all Region 4 Laboratory Services and Applied Science Division (LSASD) staff.

Scope/Application

The procedures contained in this document are to be followed when field cleaning sampling equipment, for both re-use in the field, as well as used equipment being returned to the Field Equipment Center (FEC). On the occasion that LSASD field investigators determine that any of the procedures described in this section are either inappropriate, inadequate or impractical and that other procedures must be used to clean or decontaminate sampling equipment at a particular site, the variant procedure will be documented in the field logbook, along with a description of the circumstances requiring its use. Mention of trade names or commercial products in this operating procedure does not constitute endorsement or recommendation for use.

Uncontrolled When Printed

TABLE OF CONTENTS

Purpose 1
Scope/Application 1
1 General Information 3
1.1 Documentation/Verification 3
1.2 Definitions 3
1.3 General Precautions 4
1.3.1 Safety 4
1.3.2 Procedural Precaution 4
2 Introduction to Field Equipment Cleaning and Decontamination 4
2.1 General 4
2.2 Handling Practices and Containers for Cleaning Solutions 4
2.4 Sample Collection Equipment Contaminated with Concentrated Materials 5
2.5 Sample Collection Equipment Contaminated with Environmental Media 5
2.6 Handling of Decontaminated Equipment 6
3 Field Equipment Decontamination Procedures 6
3.1 General 6
3.2 Specifications for Decontamination Pads 6
3.3 "Classical Parameter" Sampling Equipment 7
3.4 Sampling Equipment used for the Collection of Trace Compounds 7
3.5 Well Sounders or Tapes 8
3.6 Redi-Flo2® Pump 8
3.6.1 Purge Only (Pump and Wetted Portion of Tubing or Hose) 8
3.6.2 Purge And Sample 8
3.6.3 Redi-Flo2® Ball Check Valve 9
3.7 Mega-Monsoon® and GeoSub® Electric Submersible Pump 10
3.8 Bladder Pumps 10
3.9 Downhole Drilling Equipment 10
3.9.1 Introduction 10
3.9.2 Preliminary Cleaning and Inspection 11
3.9.3 Drill Rig Field Cleaning Procedure 11
3.9.4 Field Decontamination Procedure for Drilling Equipment 11
3.9.5 Field Decontamination Procedure for Direct Push Technology (DPT) 12
3.10 Rental Pumps 13
4 References 13

Uncontrolled When Printed

1 General Information

1.1 Documentation/Verification

This procedure was prepared by persons deemed technically competent by LSASD management, based on their knowledge, skills and abilities and have been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the LSASD Local Area Network (LAN). The Document Control Coordinator (DCC) is responsible for ensuring the most recent version of the procedure is placed on LAN and for maintaining records of review conducted prior to its issuance.

1.2 Definitions

- Decontamination: The process of cleaning dirty sampling equipment to the degree to which it can be re-used, with appropriate QA/QC, in the field.

- Deionized water: Tap water that has been treated by passing through a standard deionizing resin column. At a minimum, the finished water should contain no detectable heavy metals or other inorganic compounds (i.e., at or above analytical detection limits) as defined by a standard inductively coupled Argon Plasma Spectrophotometer (ICP) (or equivalent) scan. Deionized water obtained by other methods is acceptable, as long as it meets the above analytical criteria. Organic-free water may be substituted for deionized water.

- Detergent shall be a standard brand of phosphate-free laboratory detergent such as Liquinox® or Luminox®. Liquinox® is a traditional anionic laboratory detergent and is used for general cleaning and where there is concern for the stability of the cleaned items in harsher cleaners. Luminox® is a specialized detergent with the capability of removing oils and organic contamination. It is used in lieu of a solvent rinse step in cleaning of equipment for trace contaminant sampling. Where not specified in these procedures, either detergent is acceptable.

- Drilling Equipment: All power equipment used to collect surface and sub-surface soil samples or install wells. For purposes of this procedure, direct push is also included in this definition.

- Field Cleaning: The process of cleaning dirty sampling equipment such that it can be returned to the FEC in a condition that will minimize the risk of transfer of contaminants from a site.

- Organic-free water: Tap water that has been treated with activated carbon and deionizing units. At a minimum, the finished water must meet the analytical criteria of deionized water and it should contain no detectable pesticides, herbicides, or extractable organic compounds, and no volatile organic compounds above minimum detectable levels as determined by the Region 4 laboratory for a given set of analyses. Organic-free water obtained by other methods is acceptable, as long as it meets the above analytical criteria.

- Tap water: Water from any potable water supply. Deionized water or organic-free water may be substituted for tap water.

Uncontrolled When Printed

1.3 General Precautions

1.3.1 Safety

Proper safety precautions must be observed when field cleaning or decontaminating dirty sampling equipment. Refer to the LSASD Safety, Health and Environmental Management Program (SHEMP) Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASPs) for guidelines on safety precautions. These guidelines, however, should only be used to complement the judgment of an experienced professional. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate. At a minimum, the following precautions should be taken in the field during these cleaning operations:

- When conducting field cleaning or decontamination using laboratory detergent, safety glasses with splash shields or goggles, and latex gloves will be worn.
- No eating, smoking, drinking, chewing, or any hand to mouth contact should be permitted during cleaning operations.

1.3.2 Procedural Precaution

Prior to mobilization to a site, the expected types of contamination should be evaluated to determine if the field cleaning and decontamination activities will generate rinses and other waste waters that might be considered RCRA hazardous waste or may require special handling.

2 Introduction to Field Equipment Cleaning and Decontamination

2.1 General

The procedures outlined in this document are intended for use by field investigators for cleaning and decontaminating sampling and other equipment in the field. These procedures should be followed in order that equipment is returned to the FEC in a condition that will minimize the risk of transfer of contaminants from a site.

Sampling and field equipment cleaned in accordance with these procedures must meet the minimum requirements for the Data Quality Objectives (DQOs) of the study or investigation. If deviations from these procedures need to be made during the course of the field investigation, they will be documented in the field logbook along with a description of the circumstances requiring the use of the variant procedure.

Cleaning procedures for use at the Field Equipment Center (FEC) are found in LSASD Operating Procedure for Equipment Cleaning and Decontamination at the FEC (LSASDPROC-206).

2.2 Handling Practices and Containers for Cleaning Solutions

Improperly handled cleaning solutions may easily become contaminated. Storage and application containers must be constructed of the proper materials to ensure their integrity. Following are acceptable materials used for containing the specified cleaning solutions:

Uncontrolled When Printed

- Detergent must be kept in clean plastic, metal, or glass containers until used. It should be poured directly from the container during use.

- Tap water may be kept in tanks, hand pressure sprayers, squeeze bottles, or applied directly from a hose.

- Deionized water must be stored in clean, glass or plastic containers that can be closed for transport. It can be applied from plastic squeeze bottles.

- Organic-free water must be stored in clean glass or Teflon® containers prior to use. It may be applied using Teflon® squeeze bottles, or with the portable system.

2.3 Disposal of Cleaning Solutions

Procedures for the safe handling and disposition of investigation derived waste (IDW); including used wash water and rinse water are in LSASD Operating Procedure for Management of Investigation Derived Waste (LSASDPROC-202).

2.4 Sample Collection Equipment Contaminated with Concentrated Materials

Equipment used to collect samples of concentrated materials from investigation sites must be field cleaned before returning from the study. At a minimum, this should consist of washing with detergent and rinsing with tap water. When the above procedure cannot be followed, the following options are acceptable:

- Leave with facility for proper disposal;

- If possible, containerize, seal, and secure the equipment and leave on-site for later disposal;

- Containerize, bag, or seal the equipment so that no odor is detected and return to the Field Equipment Center.

It is the project leader's responsibility to evaluate the nature of the sampled material and determine the most appropriate cleaning procedures for the equipment used to sample that material.

2.5 Sample Collection Equipment Contaminated with Environmental Media

Equipment used to collect samples of environmental media from investigation sites should be field cleaned before returning from the study. Based on the condition of the sampling equipment, one or more of the following options must be used for field cleaning:

- Wipe the equipment clean;

- Water-rinse the equipment;

- Wash the equipment in detergent and water followed by a tap water rinse.

- For grossly contaminated equipment, the procedures set forth in Section 2.4 must be followed.

Uncontrolled When Printed

Under extenuating circumstances such as facility limitations, regulatory limitations, or during residential sampling investigations where field cleaning operations are not feasible, equipment can be containerized, bagged or sealed so that no odor is detected and returned to the FEC without being field cleaned. If possible, FEC personnel should be notified that equipment will be returned without being field cleaned. It is the project leader's responsibility to evaluate the nature of the sampled material and determine the most appropriate cleaning procedures for the equipment used to sample that material.

2.6 Handling of Decontaminated Equipment

After decontamination, equipment should be handled only by personnel wearing clean gloves to prevent re-contamination. In addition, the equipment should be moved away (preferably upwind) from the decontamination area to prevent re-contamination. If the equipment is not to be immediately re-used, it should be covered with plastic sheeting or wrapped in aluminum foil to prevent re-contamination. The area where the equipment is kept prior to re-use must be free of contaminants.

3 Field Equipment Decontamination Procedures

3.1 General

Sufficient equipment should be transported to the field so that an entire study can be conducted without the need for decontamination. When equipment must be decontaminated in the field, the following procedures are to be utilized.

Note: Equipment utilized for PFAS sampling will not cleaned in the field.

3.2 Specifications for Decontamination Pads

Decontamination pads constructed for field cleaning of sampling and drilling equipment should meet the following minimum specifications:

- The pad should be constructed in an area known or believed to be free of surface contamination.
- The pad should not leak.
- If possible, the pad should be constructed on a level, paved surface and should facilitate the removal of wastewater. This may be accomplished by either constructing the pad with one corner lower than the rest, or by creating a sump or pit in one corner or along one side. Any sump or pit should also be lined.
- Sawhorses or racks constructed to hold equipment while being cleaned should be high enough above ground to prevent equipment from being splashed.
- Water should be removed from the decontamination pad frequently.
- A temporary pad should be lined with a water impermeable material with no seams within the pad. This material should be either easily replaced (disposable) or repairable.

Uncontrolled When Printed

At the completion of site activities, the decontamination pad should be deactivated. The pit or sump should be backfilled with the appropriate material designated by the site project leader, but only after all waste/rinse water has been pumped into containers for disposal. See LSASD Operating Procedure for Management of Investigation Derived Waste (LSASDPROC-202) for proper handling and disposal of these materials. If the decontamination pad has leaked excessively, soil sampling may be required.

3.3 "Classical Parameter" Sampling Equipment

"Classical Parameters" are analyses such as oxygen demand, nutrients, certain inorganic compounds, sulfide, flow measurements, etc. For routine operations involving classical parameter analyses, water quality sampling equipment such as Kemmerers, buckets, dissolved oxygen dunkers, dredges, etc., may be cleaned with the sample water or tap water between sampling locations as appropriate.

Flow measuring equipment such as weirs, staff gages, velocity meters, and other stream gauging equipment may be cleaned with tap water between measuring locations, if necessary.

Note: The procedures described in Section 3.3 are not to be used for cleaning field equipment to be used for the collection of samples undergoing trace organic or inorganic constituent analyses.

3.4 Sampling Equipment used for the Collection of Trace Organic and Inorganic Compounds

For samples undergoing trace organic or inorganic constituent analyses, the following procedures are to be used for all sampling equipment or components of equipment that come in contact with the sample:

3.4.1 Standard LSASD Method

- An optional Liquinox® detergent wash step may be useful to remove gross dirt and soil.
- Clean with tap water and Luminox® detergent using a brush, if necessary, to remove particulate matter and surface films.
- Rinse thoroughly with tap water.
- Rinse thoroughly with organic-free water and place on a clean foil-wrapped surface to air-dry.
- Wrap the dry equipment with aluminum foil or bag in clean plastic. If the equipment is to be stored overnight before it is wrapped in foil, it should be covered and secured with clean, unused plastic sheeting.

3.4.2 Alternative Solvent Rinse Method

The historical solvent rinse method of cleaning equipment for trace contaminant sampling remains an acceptable method.

- Clean with tap water and Liquinox® detergent using a brush, if necessary, to remove particulate matter and surface films. Equipment may be steam cleaned (Liquinox® detergent and high-pressure hot water) as an alternative to brushing. Sampling equipment that is steam cleaned should be placed on racks or saw horses at least two feet above the floor of the decontamination pad. PVC or plastic items should not be steam cleaned.

- Rinse thoroughly with tap water.

Uncontrolled When Printed

- Rinse thoroughly with deionized water.
- Rinse with an appropriate solvent (generally isopropanol).
- Rinse with organic-free water and place on a clean foil-wrapped surface to air-dry.
- Wrap the dry equipment with aluminum foil or plastic. If the equipment is to be stored overnight before it is wrapped, it should be covered and secured with clean, unused plastic sheeting.

3.5 Well Sounders or Tapes

The following procedures are recommended for decontaminating well sounders (water level indicators) and tapes. Unless conditions warrant, it is only necessary to decontaminate the wetted portion of the sounder or tape.

- Wash with Liquinox® detergent and tap water.
- Rinse with tap water.
- Rinse with deionized water.

3.6 Redi-Flo2® Pump

CAUTION – Do not wet the controller. Always disconnect power from the pump when handling the pump body.

The Redi-Flo2® pump and any associated connected hardware (e.g., check valve) should be decontaminated between each monitoring well. The following procedures are required, depending on whether the pump is used solely for purging or used for purging and sampling.

3.6.1 Purge Only (Pump and Wetted Portion of Tubing or Hose)

- Disconnect power and wash exterior of pump and wetted portion of the power lead and tubing or hose with Liquinox® detergent and water solution.
- Rinse with tap water.
- Final rinse with deionized water.
- Place pump and reel in a clean plastic bag and keep tubing or hose contained in clean plastic or galvanized tub between uses.

3.6.2 Purge And Sample

Uncontrolled When Printed

Grundfos Redi-Flo2® pumps are extensively decontaminated and tested at the FEC to prevent contamination from being transmitted between sites. The relevant sections of LSASDPROC-206, *Field Equipment Cleaning and Decontamination at the FEC,* should be implemented in the field where a high risk of cross-contamination exists, such as where NAPL or high-concentration contaminants occur. In most cases, the abbreviated cleaning procedure described below will suffice, provided that sampling proceeds from least to most contaminated areas.

- Disconnect and discard the previously used sample tubing from the pump. Remove the check valve and tubing adapters and clean separately (See Section 3.6.3 for check valve). Wash the pump exterior with detergent and water.

- Prepare and fill three containers with decontamination solutions, consisting of Container #1, a tap water/detergent washing solution. Luminox® is commonly used. An additional pre-wash container of Liquinox® may be used; Container #2, a tap water rinsing solution; and Container #3, a deionized or organic-free water final rinsing solution. Choice of detergent and final rinsing solution for all steps in this procedure is dependent upon project objectives (analytes and compounds of interest). The containers should be large enough to hold the pump and one to two liters of solution. An array of 2' long 2" PVC pipes with bottom caps is a common arrangement. The solutions should be changed at least daily.

- Place the pump in Container #1. Turn the pump on and circulate the detergent and water solution through the pump and then turn the pump off.

- Place the pump in Container #2. Turn the pump on and circulate the tap water through the pump and then turn the pump off.

- Place the pump in Container #3. Turn the pump on and circulate deionized or organic-free water through the pump and then turn the pump off.

- Disconnect power and remove pump from Container #3. Rinse exterior and interior of pump with fresh deionized or organic-free water.

- Decontaminate the power lead by washing with detergent and water, followed by tap water and deionized water rinses. This step may be performed before washing the pump if desired.

- Reassemble check valve and tubing adapters to pump. ALWAYS use Teflon® tape to prevent galling of threads. Firm hand-tightening of fittings or light wrench torque is generally adequate.

- Place the pump and reel in a clean plastic bag.

3.6.3 Redi-Flo2® Ball Check Valve

- Remove the ball check valve from the pump head. Check for wear and/or corrosion, and replace as needed. During decontamination check for free-flow in forward direction and blocking of flow in reverse direction.

- Using a brush, scrub all components with detergent and tap water.

Uncontrolled When Printed

- Rinse with deionized water.
- Rethread the ball check valve to the Redi-Flo2® pump head.

3.7 Mega-Monsoon® and GeoSub® Electric Submersible Pump

As these pumps have lower velocities in the turbine section and are easier to disassemble in the field than Grundfos pumps, the outer pump housing should be removed to expose the impeller for cleaning prior to use and between each use when used as a sampling pump for trace contaminant sampling.

- Remove check valves and adapter fittings and clean separately.
- Remove the outer motor housing by holding the top of the pump head and unscrewing the outer housing from its O-ring sealed seat.
- Clean all pump components per the provisions of section 3.4. Use a small bottle brush for the pump head passages
- Wet the O-ring(s) on the pump head with organic-free water. Reassemble the outer pump housing to the pump head.
- Clean cable and reel per Section 3.4.
- Conduct final rinse of pump with organic-free water over pump and through pump turbine.

3.8 Bladder Pumps

Bladder pumps are presumed to be intended for use as low flow purge-and-sample pumps. The Geotech® bladder pump and Geoprobe Systems® mechanical bladder pump can be cleaned similarly.

- Discard any tubing returned with the pump.
- Completely disassemble the pump, being careful to note the initial position of and retain any springs and loose ball checks.
- Discard pump bladder.
- Clean all parts as per the standard cleaning procedure in Section 3.4.
- Install a new Teflon® bladder and reassemble pump.

3.9 Downhole Drilling Equipment

While LSASD does not currently operate drilling equipment, LSASD personnel do oversee and specify drilling operations. The following procedures are to be used for drilling activities involving the collection of soil samples for trace organic and inorganic constituent analyses and for the construction of monitoring wells to be used for the collection of groundwater samples for trace organic and inorganic constituent analyses.

3.9.1 Introduction

Uncontrolled When Printed

Cleaning and decontamination of all equipment should occur at a designated area (decontamination pad) on the site. The decontamination pad should meet the specifications of Section 3.2 of this procedure.

Tap water brought on the site for drilling and cleaning purposes should be contained in a pre-cleaned tank.

A steam cleaner and/or high pressure hot water washer capable of generating a pressure of at least 2500 PSI and producing hot water and/or steam, with a detergent compartment, should be obtained.

3.9.2 Preliminary Cleaning and Inspection

Drilling equipment should be clean of any contaminants that may have been transported from off-site to minimize the potential for cross-contamination. The drilling equipment should not serve as a source of contaminants. Associated drilling and decontamination equipment, well construction materials, and equipment handling procedures should meet these minimum specified criteria:

- All downhole augering, drilling, and sampling equipment should be sandblasted before use if painted, and/or there is a buildup of rust, hard or caked matter, etc., that cannot be removed by steam cleaning (detergent and high pressure hot water), or wire brushing. Sandblasting should be performed prior to arrival on site, or well away from the decontamination pad and areas to be sampled.

- Any portion of the drilling equipment that is over the borehole (kelly bar or mast, backhoe buckets, drilling platform, hoist or chain pulldowns, spindles, cathead, etc.) should be steam cleaned (detergent and high pressure hot water) and wire brushed (as needed) to remove all rust, soil, and other material which may have come from other sites before being brought on site.

- Printing and/or writing on well casing, tremie tubing, etc., should be removed before use. Emery cloth or sand paper can be used to remove the printing and/or writing. Most well material suppliers can provide materials without the printing and/or writing if specified when ordered. Items that cannot be cleaned are not acceptable and should be discarded.

- Equipment associated with the drilling and sampling activities should be inspected to insure that all oils, greases, hydraulic fluids, etc., have been removed, and all seals and gaskets are intact with no fluid leaks.

3.9.3 Drill Rig Field Cleaning Procedure

Any portion of the drill rig, backhoe, etc., that is over the borehole (kelly bar or mast, backhoe buckets, drilling platform, hoist or chain pulldowns, spindles, cathead, etc.) should be steam cleaned (detergent and high pressure hot water) between boreholes.

3.9.4 Field Decontamination Procedure for Drilling Equipment

Uncontrolled When Printed

The following is the standard procedure for field cleaning augers, drill stems, rods, tools, and associated equipment. This procedure does not apply to well casings, well screens, or split-spoon samplers used to obtain samples for chemical analyses, which should be decontaminated as outlined in Section 3.4 of this procedure.

- Wash with tap water and detergent, using a brush if necessary, to remove particulate matter and surface films. Steam cleaning (high pressure hot water with detergent) may be necessary to remove matter that is difficult to remove with the brush. Drilling equipment that is steam cleaned should be placed on racks or saw horses at least two feet above the floor of the decontamination pad. Hollow-stem augers, drill rods, etc., that are hollow or have holes that transmit water or drilling fluids, should be cleaned on the inside with vigorous brushing.

- Rinse thoroughly with tap water.

- Remove from the decontamination pad and cover with clean, unused plastic if not used immediately. If stored overnight, the plastic should be secured to ensure that it stays in place.

3.9.5 Field Decontamination Procedure for Direct Push Technology (DPT) Equipment

- Certain specific procedures for the decontamination of DPT tools are described in the various sampling procedures, but the following general guidelines apply:

- Prior to return to the Field Equipment Center, all threaded tool joints should be broken apart and the equipment cleaned per the provisions of *Section 2.5, Sample Collection Equipment Contaminated with Environmental Media* of this procedure.

- Equipment that contacts the sample media and is cleaned in the field for reuse should be cleaned per the provisions of *Section 3.4, Sampling Equipment used for the Collection of Trace Organic and Inorganic Compounds* of this procedure. This would include piston sampler points and shoes, screen point sampler screens and sheaths, and the drive rods when used for groundwater sampling.

- Equipment that does not directly contact the sample media and is cleaned in the field for reuse can generally be cleaned per the provisions of Section *3.7.4, Field Decontamination Procedure for Drilling Equipment* of this procedure.

- Stainless steel SP15/16 well screens require special care as the narrow slots are difficult to clean under even controlled circumstances and galvanic corrosion can release chrome from the screen surface. As soon as possible after retrieval, the screen slots should be sprayed from the outside to break loose as much material as possible before it can dry in place. To prevent galvanic corrosion, the screens must be segregated from the sampler sheaths, drive rods, and other carbon steel during return transport from the field.

Uncontrolled When Printed

3.10 Rental Pumps

Completing a groundwater sampling project may require the use of rental pumps. Rental pumps are acceptable where they are of suitable stainless steel and Teflon® construction. These pumps should be cleaned prior to use using the procedures specified herein and a rinse-blank collected prior to use.

4 References

LSASD Operating Procedure for Management of Investigation Derived Waste, LSASDPROC-202, Most Recent Version

LSASD Operating Procedure for Equipment Cleaning and Decontamination at the FEC, LSASDPROC-206, Most Recent Version

US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 LSASD, Athens, GA, Most Recent Version

Uncontrolled When Printed

Revision History

The top row of this table shows the most recent changes to this controlled document. For previous revision history information, archived versions of this document are maintained by the LSASD Document Control Coordinator on the LSASD local area network (LAN).

History	Effective Date
LSASDPROC-205-R4, *Field Equipment Cleaning and Decontamination,* replaces SESDPROC-205-R3 **General:** Updated format, Division and Branch names and naming conventions post agency re-alignment. Section 3.1: Added note that PFAS sampling equipment will not be cleaned in the field. Clarified in Section 3.9 that LSASD does not performing drilling activities.	June 22, 2020
SESDPROC-205-R3, *Field Equipment Cleaning and Decontamination*, replaces SESDPROC-205-R2. **Cover Page:** The author was changed to Brian Striggow. LSASD's reorganization was reflected in the authorization section by making John Deatrick the Chief of the Field Services Branch. The FQM was changed from Bobby Lewis to Hunter Johnson. **Revision History:** Changes were made to reflect the current practice of only including the most recent changes in the revision history. **General:** Corrected any typographical, grammatical and/or editorial errors. **Section 1.4:** Differentiate between Liquinox® and Luminox® detergents. **Section 3.4:** Restore solvent rinse as alternative cleaning method. **Section 3.7:** Added section on cleaning of 12 Volt electric submersible pumps. **Section 3.8:** Added section on cleaning of bladder pumps. **Section 3.9:** Added language on cleaning and transport of SP15/16 screens **Section 3.10:** Added section on cleaning of rental pumps	December 18, 2015
SESDPROC-205-R2, *Field Equipment Cleaning and Decontamination*, replaces SESDPROC-205-R1.	December 20, 2011
SESDPROC-205-R1, *Field Equipment Cleaning and Decontamination*, replaces SESDPROC-205-R0.	November 1, 2007

Uncontrolled When Printed

SESDPROC-205-R0, *Field Equipment Cleaning and Decontamination,* Original Issue	February 05, 2007

Uncontrolled When Printed

RESOURCE CONSERVATION AND RECOVERY ACT

POST-CLOSURE

PERMIT APPLICATION

PART B

EPA ID# ALD 057 226 904

CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

Volume III of III

September 27, 2024

ATTACHMENT R
CORRECTIVE ACTION PLAN ADDENDUM

CORRECTIVE ACTION PLAN ADDENDUM

CAVENHAM FOREST INDUSTRIES LLC
1850 HERBERT STREET
MOBILE, ALABAMA

Prepared for:

CAVENHAM FOREST INDUSTRIES LLC
600 River Avenue, Suite 200
Pittsburgh, Pennsylvania 15212

July 11, 2025

EMS Project #: HAN0-08-104

TABLE OF CONTENTS

1.0 Introduction 1
1.1 Background 1
1.2 Objective 2
2.0 Hydrology 2
2.1 Upper Aquifer 3
2.2 Lower Aquifer 3
3.0 Nature & extent of Groundwater contamination 3
3.1 Upper Aquifer 4
3.2 Lower Aquifer 4
4.0 Existing Site Remediation System 4
4.1 Synthetic Lined Cutoff Wall 4
4.2 Gradient Control System 5
4.3 Surface Seal 5
4.4 Upper Aquifer Groundwater Recovery System 5
4.5 Upper/Lower Aquifer Recovery Wells 6
4.6 Lower Aquifer Recovery Wells 6
4.7 Upper Aquifer Injection Wells 6
4.8 Lower Aquifer Injection Wells 7
4.9 Air Sparging Wells 7
4.10 Recovered Groundwater Treatment System 7
4.11 Monitoring Wells & Piezometers 7
5.0 Proposed Remedial Measures 8
5.1 Installation of Recovery Wells 8
5.2 Decommissioning Wells 9
5.3 Recovery Well Renovation 9
5.4 Corrective Action Period 10
6.0 Conclusion 10

LIST OF TABLES

TABLE	CONTENTS
1	Groundwater Monitoring and Recovery Well Construction Summary
2	Groundwater Elevation Data
3	Groundwater Analytical Summary
4	Total Depth Measurements

LIST OF FIGURES

FIGURE	TITLE
1	Site Location
2	Well Location Map
3	Upper Aquifer Potentiometric Map
4	Lower Aquifer Potentiometric Map
5	Upper Aquifer Groundwater Contamination
6	Lower Aquifer Groundwater Contamination
7	Water Treatment Unit
8	AS-3 & AS-4 Recovery Well Detail

CERTIFICATION PAGE

I certify under penalty of law that this document was prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

COLLIN R. CREEL
ALABAMA LICENSED PROFESSIONAL GEOLOGIST
LIC. 16-9

Signature:_____ Date: 7/11/2025

Name: Collin R. Creel, P.G.
Title: Project Geologist

1.0 INTRODUCTION

Cavenham Forest Industries LLC (CFI) owns a site in Mobile, Alabama, that formerly produced treated wood products using the preservatives creosote and pentachlorophenol. The plant ceased operation in 1981 and the hazardous waste management units at the site were closed in accordance with closure plans approved by the Alabama Department of Environmental Management (ADEM). The location of the site relative to the city of Mobile is shown in Figure 1. Figure 2 is the current site plan. Presented herein is a Corrective Action Plan (CAP) designed to reduce groundwater migration potential and contamination at the site, to levels that do not pose a potential risk to human health or the environment.

This report provides an update to the Corrective Action Plan (CAP) for the site as part of the RCRA Post Closure Permit renewal. The proposed changes include the following items:

- Conversion of two (2) air sparging wells (AS-3 and AS-4) into recovery wells.
- Cessation of the air sparging technology, including plugging and abandonment of all air sparging wells.
- Decommission and removal of twelve (12) recovery wells.
- Restore or reinstall one (1) recovery well that was found to be silted in.

1.1 BACKGROUND

Cavenham obtained ownership of the Mobile facility from Crown Zellerbach Corporation in 1986. Crown Zellerbach acquired the property from Gulfport Creosoting Company in 1972. Preservative treatment of wood products has been the only manufacturing activity at the site. Wood treating operations began at the site in 1938 and ceased in November, 1981.

While the facility was actively manufacturing treated wood products, it generated and managed a listed RCRA hazardous waste K001 (40 CFR part 261). This waste was managed in four (4) RCRA hazardous management units, the Vacuum Ponds, the Sand Filtration Beds, the Aeration Pond, and the Container Storage Area. These units were collectively closed as a single landfill under an approved closure plan. ADEM issued a Certification of Closure to Cavenham on April 8, 1991.

Corrective Action Plans (CAP) have previously been developed for this site. This CAP has been prepared to update and supplement those previous plans. This present addendum of the CAP incorporates additional information gained from the installation of the post-closure groundwater monitoring and recovery well system (Cavenham, 1989 and Post-

Closure Permit, February, 1991), a phase of assessment activities conducted during the winter of 1991 and spring of 1992, and data obtained through corrective action monitoring that is ongoing at the site. Table 1 incudes the construction details for each of the site's wells.

1.2 OBJECTIVE

The objective of this CAP addendum is to optimize the remedial measures to contain and reduce groundwater contamination to concentrations that do not pose a potential risk to human health and the environment in a cost-effective manner. A Closure Plan has been implemented that partially satisfies these objectives (Cavenham, 1987a). The specific objectives of this addendum are as follows:

- Hydraulically contain and recover groundwater contamination that is outside the closed RCRA landfill in the Upper Aquifer.
- Hydraulically contain and recover groundwater contamination that is beneath and downgradient from the closed RCRA landfill in the Lower Aquifer.
- Hydraulically contain and recover groundwater within the closed RCRA landfill, thus reducing the magnitude of the contamination contained within the closed RCRA landfill (Closure Area), and mitigating further impacts from this source.

These objectives will remain unchanged until such time as the potential risk to human health and the environment is diminished or reduced to such a level that an alternative long term management strategy is recommended by CFI and approved by ADEM. Routine evaluations of the long-term management strategy are ongoing and will determine the need for continued corrective action at the current level of effort.

2.0 HYDROLOGY

The site is directly underlain by two water-bearing zones that are referred to as the Upper Aquifer and the Lower Aquifer. These aquifers are separate hydrogeological units throughout most of the southern portion of the site, however, they are contiguous units in the northern portion. The hydrogeology of each is summarized below. The reader is referred to Cavenham' s Groundwater Quality Assessment (Geraghty and Miller, 1985) and Lower Aquifer Groundwater Quality Assessment (Cavenham, 1989) for addition details. Figures 3 and 4 are potentiometric maps of the Upper and Lower Aquifers, respectively. Table 2 is a summary of recent potentiometric data for the site.

2.1 UPPER AQUIFER

The Upper Aquifer is composed of fine sands and silts with a varying thickness of clay that tends to increase to the south and east and thins to the west. In the vicinity of the Closure Area, at equivalent stratigraphic depths, silts and sands laterally transition to peat and organic clay deposits, which replace the more permeable strata in the western half of the Closure Area. The thickness of the Upper Aquifer ranges from zero to about 20 feet. This aquifer appears to be in direct hydraulic communication with Three Mile Creek.

Throughout the southern half of the site, an underlying Confining Clay is present that separates the Upper Aquifer from the Lower Aquifer. This clay is missing in the northern part of the site and the Upper and Lower Aquifer are not distinct units in this area, i.e., they come together to form one water-bearing unit.

Based on previous pumping tests the horizontal hydraulic conductivity of the Upper Aquifer is 6.3 ft/day. The average linear groundwater velocity was calculated to be 0.14 ft/day, with the flow direction toward Three Mile Creek. Assumptions used to calculate these hydraulic properties include an effective porosity of 0.20 and an average hydraulic gradient of 0.0046 ft/ft.

2.2 LOWER AQUIFER

Underlying the Confining Clay is the Lower Aquifer, a relatively massive, water-bearing sand formation. The composition of the Lower Aquifer varies from silty, fine sands to coarse sands and pea-sized gravel. The thickness ranges from approximately 60 to 110 feet. Borings that have penetrated the entire thickness of the Lower Aquifer have encountered a dense blue-green clay which is referred to at the site as the "Marine" Clay unit.

Using the average horizontal hydraulic conductivity of the Lower Aquifer of 120ft/day, the average hydraulic gradient is 0.0004 ft/ft, and the effective porosity of 0.25, the average linear groundwater flow velocity was calculated to be 0.19 ft/day. This water is generally moving to the southeast toward Three Mile Creek and the Mobile River.

3.0 NATURE & EXTENT OF GROUNDWATER CONTAMINATION

Investigations at the site during the time period from 1985 to the present have indicated the presence of both nonaqueous phase liquids (NAPL) and dissolved contaminants consisting predominantly of polynuclear aromatic hydrocarbons (PAHs) and phenolic compounds typical of wood treating operations that utilize creosote and

pentachlorophenol. These compounds have migrated from the processing and waste containment areas into the surrounding soils and groundwater at the site.

3.1 UPPER AQUIFER

Figure 5 shows the extent of groundwater contamination that is present in the Upper Aquifer outside the HDPE-lined cutoff wall. The map is based on data from the 2023 sampling data for the site, including qualitative data, such as logging notations on soil boring logs. Total groundwater concentrations for the volatile organic constituents, the phenolic constituents, and the PAH constituents from Table 3, are shown for each well in this figure. The majority of the detected constituents are PAHs, with generally lesser quantities of phenolics and volatile constituents.

3.2 LOWER AQUIFER

The present extent of the groundwater contamination in the Lower Aquifer is shown on Figure 6. The map is based on the 2023 sampling data for the site, as summarized in Table 3. Total groundwater concentrations for the volatile organic constituents, the phenolic constituents, and the PAH constituents from Table 3 are shown for each well in this figure. Figure 6 indicates that the contaminants are present downgradient from the Closure Area in the Lower Aquifer.

4.0 EXISTING SITE REMEDIATION SYSTEM

Site specific remedial measures have been developed utilizing the extensive data base for the site. The remediation system for the Mobile facility includes the following elements:

- Combination HDPE-lined soil-bentonite cutoff wall around the closed landfill;
- Internal hydraulic Gradient Control System for the closed landfill;
- Surface Seal (Composite Clay/Synthetic Liner Cap) over the closed landfill;
- Groundwater recovery, treatment and discharge;
- Source reduction and in situ treatment; and,
- Monitoring wells and piezometers.

Each of these remedial measures is discussed in the following sections.

4.1 SYNTHETIC LINED CUTOFF WALL

A high-density polyethylene (HDPE) lined soil-bentonite cutoff wall is installed such that it completely surrounds the area of the former Vacuum Ponds and most of the area of the former Aeration Pond. This cutoff wall provides a physical barrier to prevent the off-site movement of the enclosed non-aqueous phase liquid and soluble groundwater

contaminant plumes that are present in the immediate vicinity of the solidified impoundments within the Upper Aquifer Closure Area. The alignment of the cutoff wall is depicted in Figure 2.

4.2 GRADIENT CONTROL SYSTEM

A hydraulic gradient control system within the area isolated by the cutoff wall effectively controls the Upper Aquifer groundwater elevation within the landfill. This system removes groundwater from the contaminated soils that are contained within the area confined by the cutoff wall. Originally, the gradient control system was pumped primarily from the gradient control system sump (GC SUMP); however, due to cap settlement since installation, new low spots in the gradient control system have developed. To account for the differential settlement of the cap, the gradient control system is now pumped from three (3) locations, GC SUMP and two (2) cleanouts identified to be the new low spots, CO-7 and CO-10. The pumping rate is adjusted such that an inward hydraulic gradient across the cutoff wall is maintained. As shown in Figure 2, the gradient control system consists of a perimeter drainage system and a north-south central lateral.

4.3 SURFACE SEAL

The Closure Area is covered with approximately two (2) feet of compacted clay and also with a synthetic liner that is composed of 0.060-inch HDPE. This dual liner system will virtually stop infiltration within the area surrounded by the cutoff wall. Additionally, this cap continues to the north to seal the area of the former Aeration Pond, which is not included in the cutoff wall enclosed area.

4.4 UPPER AQUIFER GROUNDWATER RECOVERY SYSTEM

In accordance with Cavenham's revised Corrective Action Plan of July 14, 1992, and subsequent modifications of May 5, 2000 and August 14, 2001, a total of twenty-four (24) recovery wells and two (2) recovery trenches have been installed to recover contaminated groundwater from the Upper Aquifer. As shown below, some of these recovery wells serve dual roles as both monitoring wells and recovery wells. These wells are located both within and outside the area encircled by the cutoff wall.

Recovery wells in the Upper Aquifer are as follows:

- Recovery Wells: RW-6, RW-11, RW-12, RW-13, RW-18, RW-19, RW-20, RW-21, RW-23, RW-24, RW-25, RW-28, RW-33, and RW-34;
- Compliance/Recovery Wells: RC-2, RC-3, and RW-1;
- Effectiveness/Recovery Wells: E-1 and the recovery trenches T-1 and T-2;

- Injection/Recovery Wells: A-1, A-2, A-3, A-4, A-5, and A-6;

The locations of these recovery wells and trenches are indicated on Figure 2. Table 1 is a summary of well construction data for both monitoring and remediation wells installed at this site.

4.5 UPPER/LOWER AQUIFER RECOVERY WELLS

Five (5) recovery wells were installed in both the Upper Aquifer and the upper portion of the Lower Aquifer. This portion of the recovery well system is located in the proximity of the three (3) decommissioned storage tanks on the northwestern portion of the site. These wells provide hydraulic containment and contaminant recovery downgradient of the closed landfill.

The recovery wells in the transition zone between the Upper Aquifer and the upper portion of the Lower Aquifer are:

- Recovery Wells: RW-7, RW-29, RW-30, RW-31, and RW-32.

The locations of these recovery wells are indicated on Figure 2.

4.6 LOWER AQUIFER RECOVERY WELLS

The Lower Aquifer recovery well system consists of twelve (12) recovery wells screened in the Lower Aquifer. These wells provide hydraulic containment and contaminant recovery both inside and surrounding the closed landfill.

The recovery wells in the Lower Aquifer are:

- Recovery Wells: RW-8, RW-9, RW-10, RW-35, RW-36, and RW-37;
- Boundary/Recovery Wells: RW-8A and RW-3B;
- Compliance/Recovery Well: RW-2;
- Effectiveness/Recovery Wells: RW-3A, RW-4, and RW-5;

All of the wells are currently installed at the locations indicated on Figure 2. Iron fouling is occurring in the downgradient wells RW-8, RW-8A, RW-9, and RW-10. These wells are being cycled on and off periodically with the exception of RW-9, which has been shut down. Wells RW-35, RW-36, and RW-37 were installed to assist in recovery in order to allow RW-8, RW-8A, RW-9, and RW-10 to be pumped on an as needed basis.

4.7 UPPER AQUIFER INJECTION WELLS

The CAP calls for one (1) injection well, I-1, in the Upper Aquifer in the vicinity of well RC-1. Additionally, wells A-1 through A-6 within the landfill are available to be utilized for

injection once the level of recoverable oil diminishes. The locations of these wells are indicated on Figure 2. Wells A-1 through A-6 were designed to be used as either recovery or injection wells to assist with contaminant recovery. As these wells were designed to perform dual roles, they are also listed above in the recovery well section. Presently, these wells are not actively being utilized as recovery wells or injection wells.

Injection well I-1 was installed on November 1, 1994. This well was placed on-line in February, 1995.

4.8 LOWER AQUIFER INJECTION WELLS

The CAP calls for installation of two (2) injection wells, I-2 and I-3, into the Lower Aquifer along the western side of the closure area. These two (2) wells and the existing well B-48A will be utilized as injection wells. The locations of these wells are indicated on Figure 2.

Injection wells I-2 and I-3 were installed during November 2-8, 1994. Cavenham placed these wells on-line during March and April, 1995. Injection well I-2 was replaced with injection well I-2A in August, 1995.

4.9 AIR SPARGING WELLS

The May 5, 2000 modification of the CAP proposed air sparging well locations within the confines of the Closure Area. These wells were subsequently installed and operated until approximately 2006 when entrapment of the air was noted under the synthetic liner covering the Closure Area. No damage to the liner was observed or believed to be present. The air sparge system was shut down and remains inoperable. To ensure unpermitted discharges do not occur the compressor that supplied the air was isolated from the system and all piping and wells were sealed. The ten (10) air sparging well locations are indicated on Figure 2. The wells are numbered AS-1 through AS-10.

4.10 RECOVERED GROUNDWATER TREATMENT SYSTEM

A water treatment system has been installed to treat the groundwater recovered during the site remediation. The treatment system is based on a treatment train approach and consists of gravity settling, fixed film microbial degradation, and activated carbon polishing. Figure 7 is an “as-built” drawing of the treatment system.

4.11 MONITORING WELLS & PIEZOMETERS

Monitoring of the groundwater quality and elevation during the corrective action period is necessary to assess the progress of the remediation and to assure hydraulic control of the contaminant plume. To monitor the progress of the remediation, groundwater quality

is monitored in the Upper and Lower Aquifers. Site piezometers are utilized to evaluate the hydraulic behavior of the aquifer as it responds to the corrective action pumping and injection activities.

5.0 PROPOSED REMEDIAL MEASURES

Pursuant to the site's Resource Conservation and Recovery Act (RCRA) Permit Condition I.C.12, CFI would like to propose to the Department the conversion of the two air sparging wells into recovery wells, the decommissioning of the remaining air sparging wells and to plug and abandon twelve (12) recovery wells. Each one of these is addressed in the following sections. All well construction, installation, and abandonment procedures will follow the Alabama Environmental Investigation and Remediation Guidance Document (AEIRG) revision 4.0, dated February 2017.Table 1 summarizes the construction of each well currently on site and which wells will be decommissioned or converted into different roles.

5.1 INSTALLATION OF RECOVERY WELLS

Two air sparging wells, AS-03 and AS-04, will be over-drilled and new recovery wells will be installed in the same location. The recovery wells are planned to be constructed using 4-inch 316 stainless steel with 10 feet of continuous wrapped screen. The total depth is anticipated to be approximately 29 feet below ground surface. The new recovery wells will match the original depths of the air sparging wells, and will not puncture the Confining Clay layer. Figure 2 includes the location of the site's wells. The drilling will be performed by either direct push type drilling rig, a sonic rig or equivalent technology. Following installation, updated survey data will be collected, boring logs will be completed, and all appropriate documents will be updated via a minor permit modification. Well construction details are found in Figure 8. The proposed recovery wells will be constructed in general accordance with the AEIRG.

The installation of the proposed recovery wells will be through the HDPE liner installed over the impoundment. To ensure the integrity of the cap is maintained a HDPE boots with a bentonite sealant, or equivalent as manufacturer's recommendation, will be installed.

Once installed, the recovery wells will be equipped with stainless steel air lift pumps. The anticipated rate of withdrawal is expected to be approximately 0.5 to 2 gallons per minute (gpm). If the recovery wells are able to produce a greater amount of water down-hole

electrical pumps or larger air pumps may be installed. The wells will be plumbed and all produced water will be routed through the on-site treatment system.

5.2 DECOMMISSIONING WELLS

From 2001 through 2002, CFI installed fifteen (15) recovery wells and ten (10) air sparging wells to optimize product recovery and remediation around the site. This install, while appropriate at the time, is now deemed unproductive to the site's remedial design, with the exception of RW-35, RW-36, and RW-37. The following paragraphs provide the reasoning behind the decision to remove these wells from the site's regulatory record.

The site's air sparging wells are proposed to be plugged and abandoned and the remedial technology removed from the site's permit, with the exception of AS-03 and AS-04, which will be converted into recovery wells. The air sparging system was abandoned over 15 years ago when air was being trapped under the liner and producing "bubbles" that threatened the integrity of the liner. The compressor that supplies air for the system was disconnected indefinitely in January 2022. The air sparging wells AS-01, AS-02, AS-05, AS-06, AS-07, AS-09, and AS-10 are proposed to be plugged and abandoned.

Twelve (12) of the site's recovery wells are proposed to be plugged and abandoned due to ineffectiveness and cumbersome operations and maintenance. The wells were constructed as 2-inch recovery wells and were equipped with air lift pumps. The combination of the smaller diameter recovery well, pump type, and location proved to be inefficient and produced extra work for the site's personnel to keep the wells producing water for treatment. The wells were continually being clogged and the small pumps proved inefficient at producing the amount of water that was considered adequate. The recovery wells RW-20, RW-21, RW-23, RW-24, RW-25, RW-28, RW-29, RW-30, RW-31, RW-32, RW-33, and RW-34 are proposed to be plugged and abandoned.

The proposed plugging and abandonment of the wells will be conducted in general accordance with the AEIRG. All work will be overseen by a qualified environmental geologist/engineer and will be performed by a licensed driller.

5.3 RECOVERY WELL RENOVATION

At the end of 2023, CFI measured total depths of the site's wells and are included in Table 4. Several wells were determined to have several feet of sediment at the bottom. These wells were redeveloped to remove the sediment. One well, RW-10, continued to indicate significant amounts of sediment based on the difference of the measured total depth and the original total depth of the well at the time of installation. CFI proposes to perform further redevelopment of this well to attempt to remove the remaining sediment by using

surging techniques and aggressive pumping. All water generated will be contained and have flocculent added to help the sediment settle out before the water is treated in the site's water treatment unit. The sediment will then be containerized, characterized, and disposed of at a properly permitted facility. If the recovery well cannot be rehabilitated, it will be replaced by over drilling and a new identical recovery well installed. All work will follow the AEIRG. All work will be overseen by a qualified environmental geologist/engineer and will be performed by a licensed driller.

5.4 CORRECTIVE ACTION PERIOD

CFI plans to continue the corrective action activities as described above until site conditions change to prevent potential risk to human health and the environment. At a minimum, CAP re-evaluation will be performed during subsequent permit renewal applications. In determining the long-term operational costs of corrective action, CFI proposes to continue corrective action activities as described above for the next 10 years and a reduced monitoring schedule for the following 20 years.

6.0 CONCLUSION

The modifications to remedial system will continue to meet the remedial objectives for the site. The modifications to the remedial system will allow for more operational efficiency while removing legacy remedial components that are no longer used or necessary.

TABLE

TABLE 1
GROUNDWATER MONITORING AND REMEDIATION WELL CONSTRUCTION SUMMARY
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

Well Designation	Top of Casing (ft-msl)	Total Depth (ft-bls)	Screened Interval Elevation (ft-msl)	Aquifer	Use	Casing (Diameter)	Casing Material
A-1	14.05	32.62	-4.4 to -14.4	UA	R/I	4	SS
A-2	16.16	36.23	0 to -20	UA	R/I	4	SS
A-3	14.77	36.35	0.2 to -19.8	UA	R/I	6	SS
A-4	13.48	31.10	-4.3 to -14.3	UA	R/I	4	SS
A-5	16.60	34.64	+4.6 to -15.4	UA	R/I	6	SS
A-6	14.87	28.97	-1.6 to -11.6	UA	R/I	4	SS
AS-1*	16.72	19.00	-3.11 to -6.11	UA	A	1	SS
AS-2*	18.68	23.00	-4.93 to -7.93	UA	A	1	SS
AS-3**	17.33	29.00	-12.78 to -15.78	UA	R	1	SS
AS-4**	16.80	29.00	-13.13 to -16.13	UA	R	1	SS
AS-5*	19.51	32.00	-14.0 to -17.0	UA	A	1	SS
AS-6*	20.85	29.00	-9.75 to -11.75	UA	A	1	SS
AS-7*	17.65	30.00	-13.8 to -16.8	UA	A	1	SS
AS-8*	16.28	25.00	-7.08 to -10.08	UA	A	1	SS
AS-9*	16.72	25.00	-6.35 to -9.35	UA	A	1	SS
AS-10*	21.47	26.00	-7.08 to -10.08	UA	A	1	SS
DG-1A	7.24	42.20	-30.4 to -35.4	UL	P	2	PVC
E-1	16.34	32.52	-5.2 to -15.2	UA	E/R	4	SS
E-2	9.31	30.97	-15.6 to -20.6	UA	B	4	SS
GC SUMP	12.44	NA	NA	UA	R	10	HDPE
CO-7	12.41	NA	NA	UA	R	6	HDPE
CO-10	17.79	NA	NA	UA	R	6	HDPE
I-1	9.63	31.00	-11.5 to -21.5	UA	I	4	SS
I-2A	11.01	80.70	-40.0 to -69.0	UL	I	4	SS
I-3	9.93	64.80	-26.5 to -56.5	UL	I	4	SS
RC-1	11.90	33.98	-10.9 to -20.9	UA	C	4	SS
RC-1A	11.86	52.78	-30.8 to -40.8	UL	C	4	SS
RC-2	12.08	28.91	-5.2 to -15.2	UA	C/R	4	SS
RC-2A	13.38	51.21	-26.7 to -36.7	UL	C	4	SS
RC-3	9.66	28.68	-11.7 to -16.7	UA	C/R	4	SS
RC-3A	10.30	47.54	-27.1 to -37.1	UL	C	4	SS
RW-1	12.52	25.43	+6.5 to -13.5	UA	C/R	6	SS
RW-2	13.29	58.50	-25.5 to -45.5	UL	C/R	4	SS
RW-3A	15.53	60.02	-23.4 to -43.4	UL	E/R	4	SS
RW-3B	14.93	112.00	-74.9 to -94.9	LL	B/R	4	SS
RW-4	20.08	65.94	-25.2 to -45.2	UL	E/R	4	SS
RW-5	16.17	64.59	-28.5 to -48.5	UL	E/R	4	SS
RW-6	10.61	29.12	-5.9 to -15.9	UA	R	6	SS
RW-7	8.40	31.51	-12.0 to -22.0	UL / UA	R	4	SS
RW-8	4.40	44.52	-30.6 to -40.6	UL	R	4	SS
RW-8A	4.78	44.24	-30.0 to 40.0	UL	B/R	4	SS
RW-9	4.22	42.79	-27 to -37	UL	R	4	SS
RW-10	5.19	37.80	-29.6 to -39.6	UL	R	4	SS

TABLE 1
GROUNDWATER MONITORING AND REMEDIATION WELL CONSTRUCTION SUMMARY
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

Well Designation	Top of Casing (ft-msl)	Total Depth (ft-bls)	Screened Interval Elevation (ft-msl)	Aquifer	Use	Casing (Diameter)	Casing Material
RW-11	4.90	20.33	0 to -15	UA	R	4	SS
RW-12	5.44	19.01	0.5 to -14.5	UA	R	4	SS
RW-13	4.10	21.09	-0.6 to -15.6	UA	R	4	SS
RW-18	16.60	30.00	2.81 to -12.19	UA	R	2	SS
RW-19	18.25	32.00	0.53 to -15.53	UA	R	2	SS
RW-20*	18.20	32.00	0.3 to -15.3	UA	R	2	SS
RW-21*	14.94	30.00	-1.93 to -11.93	UA	R	2	SS
RW-23*	17.77	30.00	-0.81 to -10.81	UA	R	2	SS
RW-24*	12.82	30.00	-1.18 to -16.18	UA	R	2	SS
RW-25*	17.91	30.00	4.64 to -10.36	UA	R	2	SS
RW-28*	16.73	30.00	3.78 to -11.22	UA	R	2	SS
RW-29*	8.41	30.00	-7.86 to -22.86	UL/UA	R	2	SS
RW-30*	8.20	30.00	-6.67 to -21.67	UL/UA	R	2	SS
RW-31*	5.60	30.00	-10.42 to -25.42	UL/UA	R	2	SS
RW-32*	9.45	30.00	-8.55 to -23.55	UL/UA	R	2	SS
RW-33*	15.27	30.00	-2.05 to -17.05	UA	R	2	SS
RW-34*	14.27	30.00	0.56 to -14.44	UA	R	2	SS
RW-35	6.36	51.50	-30.5 to -45.5	UL	R	4	SS
RW-36	6.18	51.50	-30.75 to -45.75	UL	R	4	SS
RW-37	6.06	51.50	-30.58 to -45.58	UL	R	4	SS
UG-1	7.26	30.95	-18 to -23	UL/UA	P	2	PVC
UG-2	8.32	22.96	-9.4 to -14.4	UL/UA	X	2	PVC
T-1	9.74	NA	NA	UA	E/R	8	HDPE
T-2	6.48	NA	NA	UA	E/R	8	HDPE
B-24	7.35	97.09	-77.8 to -92.8	LL	B	2	PVC
B-25	4.75	109.03	-88.9 to -103.9	LL	B	2	PVC
B-26	4.75	86.90	-62.2 to -82.2	IL	P	2	PVC
B-27	6.37	92.76	-60.3 to -80.3	LL	P	2	PVC
B-29	6.68	49.10	-33.3 to -43.3	UL	P	2	PVC
B-36	6.76	41.79	-24.9 to -34.9	UL	B	2	PVC
B-37	6.98	46.69	-30.1 to -40.1	UL	P	2	PVC
B-48A	4.86	44.50	-34.6 to -39.6	UL	I	4	SS
B-59A	7.79	120.01	-97.5 to -112.5	LL	P	2	SS
B-60A	6.18	85.50	-64.7 to 79.7	LL	B	4	SS
B-61	6.07	86.52	-65.6 to -80.6	LL	P	2	PVC
B-64A	5.76	62.13	-39.8 to -54.8	IL	P	2	SS
B-65	6.09	61.80	-40.4 to -55.4	IL	B	2	PVC
B-94	8.08	24.89	-7.4 to -17.4	UA	P	2	PVC
B-97	5.54	30.01	-14 to -24	UA	B	2	PVC
B-101	4.78	48.68	-39.1 to -44.1	UL	B	2	PVC
B-102	8.54	43.90	-26.1 to -36.1	UL	P	2	PVC
B-103	6.36	44.83	-29.2 to -39.2	UL	P	2	PVC

TABLE 1
GROUNDWATER MONITORING AND REMEDIATION WELL CONSTRUCTION SUMMARY
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

Well Designation	Top of Casing (ft-msl)	Total Depth (ft-bls)	Screened Interval Elevation (ft-msl)	Aquifer	Use	Casing (Diameter)	Casing Material
B-104	6.23	19.87	-3.7 to -13.7	UA	P	2	PVC
B-108A	5.42	28.99	-18.7 to -23.7	UA	B	2	PVC
B-110	7.31	24.89	-7.9 to -17.9	UA	P	2	PVC
B-111	7.03	33.36	-15.9 to -25.9	UL	P	2	PVC
B-114	9.45	39.91	-20.6 to -30.6	UL	P	2	PVC
B-116	5.94	42.00	-25.7 to -35.7	UL	P	2	PVC
B-128	5.51	24.82	-9.5 to -19.5	UA	B	2	PVC
B-139	9.77	32.94	-13.3 to -23.3	UA	P	2	PVC
B-140	5.35	28.53	-12 to -22	UA	P	2	PVC

* - Denotes wells proposed to be decommisioned.
** - Denotes wells proposed to be converted into recovery wells. This table will be updated via minor permit modification once installed.
ft-msl - Elevation in feet relative to mean sea level
ft-bls - Feet below land surface

Aquifer:
UA - Upper Aquifer
UL - Upper portion of Lower Aquifer
IL - Intermediate portion of Lower Aquifer
LL - Lower portion of Lower Aquifer

Casing Material:
SS - Stainless Steel
PVC - Polyvinylchloride
HDPE - High Density Polyethylene

Use:
A - Air Sparger
B - Boundary
C - Compliance
E - Effectiveness
I - Injection
P - Piezometer
R - Recovery
X - Background

Notes:
RW-18 - formerly AS/RW-10
RW-19 - formerly AS/RW-8
RW-20 - formerly AS/RW-9
AS-8 - formerly RW/AS-20
AS-9 - formerly RW/AS - 22
AS-10 - formerly RW/AS-26

TABLE 2
WATER LEVEL DATA
CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

WELL	ZONE	Top of Casing	9/20/2021	10/5/2021	11/29/2021	12/8/2021	3/21/2022	6/17/2022	9/27/2022	12/9/2022	3/17/2023	6/23/2023	9/25/2023	12/18/2023
UG-1	U,UL	7.53	2.88	2.85	2.82	2.85	2.06	2.75	2.01	2.89	2.38	2.91	2.94	2.87
UG-2	U,UL	8.35	3.59	3.56	3.53	3.55	3.13	2.94	3.07	3.03	2.90	2.97	3.02	2.86
DG-1A	UL	7.30	2.61	2.59	2.57	2.59	2.44	2.32	2.37	2.41	1.88	2.58	2.66	2.18
B-24	LL	6.42	3.32	3.27	-0.73	-0.71	3.12	3.06	3.05	3.12	2.59	2.81	2.99	2.53
B-25	LL	7.44	2.88	2.82	2.80	2.84	2.85	2.55	2.79	2.69	2.09	2.72	2.81	2.30
B-26	IL	4.87	2.76	2.73	2.69	2.68	2.76	2.33	2.69	2.52	2.09	2.62	2.82	2.32
B-27	LL	6.69	3.15	3.11	3.07	3.06	3.03	2.70	2.98	2.91	2.44	2.97	3.00	2.69
B-29	UL	4.64	0.89	0.83	0.82	0.80	0.77	0.59	0.72	0.75	1.49	0.63	0.69	0.24
B-36	UL	6.77	2.86	2.81	2.76	2.75	3.30	2.51	3.27	2.62	2.44	2.67	2.73	2.22
B-37	UL	7.10	3.10	3.06	3.02	3.00	2.92	2.75	2.62	2.85	2.34	2.80	2.88	2.42
B-59A	LL	7.89	4.88	4.80	4.77	4.73	3.14	3.03	3.03	3.09	2.41	3.61	4.05	2.67
B-60A	LL	6.32	3.45	3.40	3.38	3.36	3.09	2.80	2.92	2.90	3.16	2.97	3.05	2.63
B-61	LL	6.08	3.19	3.14	3.14	3.14	2.97	2.78	2.78	2.93	2.28	2.63	2.88	2.44
B-64A	IL	5.85	3.42	3.35	3.29	3.28	3.03	2.89	2.95	3.05	2.47	2.93	3.02	2.64
B-65	IL	6.20	3.21	3.15	3.14	3.12	2.88	2.86	2.75	2.93	2.98	2.88	2.91	2.47
RC-1	U	12.04	3.37	3.33	3.30	2.74	3.05	2.61	2.84	2.66	2.69	2.79	3.03	2.66
RC-1A	UL	11.93	3.22	3.20	3.18	2.58	3.24	2.82	3.18	2.93	2.36	1.68	1.84	2.43
RC-2	U	12.22	3.65	3.65	3.62	3.00	3.36	1.96	3.22	2.12	2.80	1.02	1.33	2.88
RC-2A	UL	13.43	3.18	3.13	3.08	2.56	3.21	2.84	3.07	3.11	2.63	2.43	2.73	2.42
RC-3	U	9.80	4.77	4.70	4.68	3.18	3.39	3.54	3.28	3.65	3.38	2.00	2.21	1.30
RC-3A	UL	10.37	3.33	3.25	3.23	2.72	3.31	2.94	3.22	3.12	2.82	2.33	2.83	2.49
RW-1	U	12.65	6.90	6.85	6.76	5.44	6.01	5.81	5.95	5.95	5.15	5.03	5.14	4.52
RW-2	UL	13.34	3.82	3.34	3.32	2.91	3.33	2.99	2.94	3.19	4.34	2.98	3.10	2.76
RW-3A	UL	15.61	3.30	3.25	3.23	2.76	3.19	2.91	3.07	3.16	2.51	2.81	2.92	2.60
RW-3B	LL	15.03	3.93	3.88	3.83	2.26	3.29	3.00	3.18	3.14	3.08	2.81	2.98	2.62
RW-4	UL	20.15	2.92	2.88	2.86	2.60	3.18	2.96	2.90	3.10	3.71	2.33	3.03	2.53
RW-5	UL	16.28	3.16	3.14	3.10	2.63	3.22	2.92	2.93	3.18	3.00	2.78	2.94	2.48
RW-6	U	10.75	2.95	2.89	2.85	2.50	3.00	1.89	2.91	2.06	2.33	1.37	1.52	2.42
RW-7	U,UL	8.51	3.40	3.33	3.31	3.29	3.10	2.95	3.06	3.11	2.33	2.75	3.07	2.87
RW-8	UL	4.57	ND	ND	ND	ND	ND	ND	ND	ND	2.17	2.70	2.88	2.56
RW-8A	UL	4.89	3.66	3.64	3.57	3.54	2.71	2.27	2.63	2.39	2.14	2.67	2.70	2.53
RW-9	UL	4.33	2.08	2.04	1.98	1.97	2.64	2.61	2.58	2.63	1.98	2.63	2.69	2.27
RW-10	UL	5.29	3.94	3.89	3.82	3.82	3.74	3.62	3.67	3.67	2.83	-3.42	2.65	2.31
RW-11	U	5.03	1.48	1.43	1.43	1.61	2.14	1.48	2.02	1.53	0.78	2.13	2.18	0.65
RW-12	U	5.57	1.68	1.64	1.62	1.61	2.28	1.62	2.23	1.79	1.15	2.15	2.18	0.82
RW-13	U	4.27	1.92	1.89	1.87	1.84	2.31	0.23	2.22	0.29	1.22	2.07	1.66	1.40

TABLE 2
WATER LEVEL DATA
CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

WELL	ZONE	Top of Casing	9/20/2021	10/5/2021	11/29/2021	12/8/2021	3/21/2022	6/17/2022	9/27/2022	12/9/2022	3/17/2023	6/23/2023	9/25/2023	12/18/2023
RW-35	UL	6.46	3.08	3.06	3.02	3.01	3.04	2.50	2.95	2.66	2.40	2.78	2.86	2.59
RW-36	UL	6.22	3.08	3.05	3.01	3.01	3.01	2.53	2.90	2.57	2.11	2.60	2.89	2.52
RW-37	UL	6.15	3.44	3.35	3.30	3.30	2.57	2.66	2.46	2.68	2.43	2.67	2.75	2.98
E-1	U	16.45	3.83	3.77	3.73	3.04	3.01	3.01	2.93	3.35	3.49	2.65	3.05	2.80
E-2	U	9.56	2.87	2.84	2.82	2.58	2.99	1.96	2.76	2.11	2.58	1.76	1.71	2.27
A-1	U	14.43	11.73	11.68	11.63	11.05	11.23	4.40	11.14	4.65	4.43	6.51	6.58	3.62
A-2	U	16.44	4.94	4.94	4.82	3.04	2.33	2.42	2.09	2.74	3.54	2.64	2.73	4.86
A-3	U	15.13	12.23	12.18	12.14	12.23	12.32	12.16	12.29	12.24	12.63	5.33	5.34	-6.76
A-4	U	13.70	10.70	10.63	10.61	10.46	10.90	10.39	10.80	10.55	3.50	4.66	5.17	-2.59
A-5	U	16.75	3.71	3.65	3.60	2.90	2.42	1.35	2.30	1.85	2.15	0.90	1.71	2.14
A-6	U	14.99	12.69	12.64	12.61	8.38	11.72	10.92	11.69	11.09	1.27	2.61	2.95	1.36
B-94	U	8.14	3.43	3.36	3.33	3.32	3.10	2.92	2.89	3.02	3.02	2.96	3.02	2.70
B-97	U	5.94	3.70	3.68	3.66	3.64	3.52	3.14	3.34	3.23	3.59	3.03	3.08	3.59
B-101	UL	4.89	2.77	2.75	2.72	2.72	2.70	2.36	2.69	2.49	2.14	2.71	2.79	2.29
B-102	UL	8.62	2.65	2.63	2.58	2.56	3.07	2.32	2.99	2.49	2.27	2.56	2.65	2.03
B-103	UL	6.46	2.64	2.55	2.47	2.45	2.76	2.32	2.68	2.37	1.95	2.63	2.71	2.15
B-104	U	6.40	3.09	3.05	3.01	2.98	2.98	1.66	2.90	1.70	2.66	1.36	1.43	2.63
B-108A	U	5.50	3.33	3.31	3.29	3.30	2.85	2.49	2.75	-1.46	2.71	2.35	2.40	2.61
B-110	U	7.55	3.58	3.55	3.50	3.49	3.20	2.93	2.93	3.05	2.75	3.03	3.09	2.93
B-111	UL	7.17	3.12	3.07	3.05	3.04	2.85	2.60	2.70	2.66	2.39	2.82	2.92	2.64
B-114	UL	9.65	3.76	3.71	3.65	3.61	1.42	3.13	1.20	3.30	2.85	3.19	3.22	3.02
B-116	UL	5.17	1.97	1.91	1.89	1.88	2.12	1.87	2.08	2.02	1.65	2.02	2.10	1.86
B-128	U	5.76	2.71	2.65	2.64	2.64	2.37	2.01	2.34	2.12	2.31	1.86	1.95	2.22
B-139	UL	9.80	3.58	3.53	3.50	3.47	3.06	2.86	2.76	2.85	3.04	2.96	3.03	2.90
B-140	UL	5.61	4.20	4.11	4.04	4.01	3.72	3.89	3.51	3.93	3.31	3.21	3.30	3.72
T-1	U	9.81	7.16	7.12	7.08	7.06	6.62	5.46	6.53	5.51	2.94	4.80	4.91	6.05
T-2	U	6.51	4.02	3.98	3.97	3.96	4.16	1.89	4.04	1.96	4.06	0.65	0.80	3.52
SUMP	U	12.58	2.08	2.06	1.44	1.23	-0.72	-0.27	-1.04	-0.12	-0.04	0.18	0.65	0.92
STAFF GAUGE		-0.52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Data are in feet corrected to NGVD
U - Upper Aquifer UL - Upper part of Lower Aquifer
L - Lower Aquifer IL - Intermediate part of Lower Aquifer
LL - Lower part of Lower Aquifer
ND - No Data

TABLE 3
BOUNDARY WELL E-2
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/14/2018	3/14/2019	3/18/2020	3/11/2021	4/3/2022	3/20/2023
pH (pH units)	--	7.04	6.82	7.18	6.62	7.01	6.73
Specific Conductance (µs/cm)	--	1320	1224	1304	1070	1460	1070
Ammonia (N) (mg/L)	--	10.8	8.53	8.55	9.67	8.89	8.48
Nitrate (N) (mg/L)	--	<0.5	<0.5	2.07	6.77	7.93	<0.5
Chloride (mg/L)	--	171	173	188	88.9	288	89.3
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.005	0.00387	0.00253	0.00102	<0.005	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0102	<0.0108	<0.0104	<0.0103	<0.00019	<0.00107
p-Chloro-m-cresol	0.0141	<0.0102	<0.0108	<0.0104	<0.0103	<0.00028	<0.00168
o-Cresol	18	<0.0102	<0.0108	<0.0104	<0.0103	<0.00042	<0.00126
m,p-Cresol	0.18	<0.0102	<0.0108	<0.0104	<0.0103	<0.00115	<0.00344
2,4,6-Trichlorophenol	0.002	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	<0.00045	<0.00134
2,4-Dinitrophenol	0.073	<0.0102	<0.0108	<0.0104	<0.0103	<0.00131	<0.00439
Pentachlorophenol	0.001	<0.001	***0.00283***	<0.001	<0.001	<0.00006	<0.00102
TOTAL		**0.0000**	**0.00283**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0102	<0.0108	<0.0104	<0.0103	0.00005	0.00035
Acenaphthylene	0.0939	<0.0102	<0.0108	<0.0104	<0.0103	<0.00001	<0.00006
Anthracene	11	<0.0102	<0.0108	<0.0104	<0.0103	0.00003 J	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	0.00003 J	0.00009
Benzo(b)Fluoranthene	0.000092	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	0.00004 J	0.00072
Benzo(k)Fluoranthene	0.00092	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	<0.00003	0.00053
Benzo(a)Pyrene	0.0002	0.00015	<0.00006	<0.00006	<0.00006	0.00002 J	0.00052
Bis(2-ethylhexyl)phthalate	0.006	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	0.00087 J	<0.0011
Carbazole	0.034	<0.0102	<0.0108	<0.0104	<0.0103	<0.00267	<0.00798
Chrysene	0.0092	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	0.00003 J	0.00007
Dibenz(a,h)anthracene	0.0000092	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	<0.00041	<0.00122
Di-n-octyl phthalate	0.006	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	<0.00029	<0.00173
Fluoranthene	1.5	<0.0102	<0.0108	<0.0104	<0.0103	0.00009	0.00012
Fluorene	1.5	<0.0102	<0.0108	<0.0104	<0.0103	0.00003 J	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	<0.00003	0.00036
2-Methylnaphthylene	0.00626	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	<0.00005	<0.00005
Naphthalene	0.00062	***<0.0102***	***<0.0108***	***<0.0104***	***<0.0103***	0.00004 J	<0.00015
Phenanthrene	1.5	<0.0102	<0.0108	<0.0104	<0.0103	0.00008	0.00014
Pyrene	1.1	<0.0102	<0.0108	<0.0104	<0.0103	0.00007	0.00006
TOTAL		**0.00015**	**0.0000**	**0.0000**	**0.0000**	**0.00138**	**0.00296**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-97
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/20/2018	3/20/2019	3/18/2020	3/9/2021	4/5/2022	3/22/2023
pH (pH units)	--	6.77	6.10	6.70	6.95	6.75	7.00
Specific Conductance (µs/cm)	--	1870	1710	813	2090	1830	2020
Ammonia (N) (mg/L)	--	8.09	8.07	7.83	9.76	9.88	8.43
Nitrate (N) (mg/L)	--	<0.5	<0.5	<0.5	<2.5	<12.5	0.658
Chloride (mg/L)	--	404	597	398	659	436	406
Arsenic (mg/L)	0.01	0.01	0.00969	0.0105	0.00358	0.00628	0.0172
Chromium (mg/L)	0.1	0.002	0.0011	0.00118	0.00138	<0.005	0.00199
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0106	<0.0105	<0.0122	<0.0106	<0.0002	<0.00124
p-Chloro-m-cresol	0.0141	<0.0106	<0.0105	<0.0122	<0.0106	<0.00029	<0.00194
o-Cresol	18	<0.0106	<0.0105	<0.0122	<0.0106	<0.00044	<0.00146
m,p-Cresol	0.18	<0.0106	<0.0105	<0.0122	<0.0106	<0.0012	<0.00399
2,4,6-Trichlorophenol	0.002	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00047	<0.00155
2,4-Dinitrophenol	0.073	<0.0106	<0.0105	<0.0122	<0.0106	<0.00137	<0.00508
Pentachlorophenol	0.001	<0.001	***0.00109***	<0.001	<0.001	<0.00007	<0.00118
TOTAL		**0.0000**	**0.00109**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0106	<0.0105	<0.0122	<0.0106	0.00004 J	0.00057
Acenaphthylene	0.0939	<0.0106	<0.0105	<0.0122	<0.0106	<0.00001	<0.00007
Anthracene	11	<0.0106	<0.0105	<0.0122	<0.0106	<0.00002	<0.00007
Benzo(a)Anthracene	0.000092	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00003	<0.00007
Benzo(b)Fluoranthene	0.000092	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00003	<0.00006
Benzo(k)Fluoranthene	0.00092	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00003	<0.00006
Benzo(a)Pyrene	0.0002	<0.00006	<0.00006	<0.00007	<0.00006	0.00002 J	<0.00007
Bis(2-ethylhexyl)phthalate	0.006	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00039	<0.00127
Carbazole	0.034	<0.0106	<0.0105	<0.0122	<0.0106	<0.00278	<0.00925
Chrysene	0.0092	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00003	0.00116
Dibenz(a,h)anthracene	0.0000092	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	***<0.00004***	***<0.00019***
Dibenzofuran	0.0012	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00042	***<0.00141***
Di-n-octyl phthalate	0.006	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00031	<0.002
Fluoranthene	1.5	<0.0106	<0.0105	<0.0122	<0.0106	0.00003 J	0.00019
Fluorene	1.5	<0.0106	<0.0105	<0.0122	<0.0106	0.00003 J	0.00034
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00003	<0.0002
2-Methylnaphthylene	0.00626	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	<0.00005	0.00081
Naphthalene	0.00062	***<0.0106***	***<0.0105***	***<0.0122***	***<0.0106***	0.00004 J	0.0012
Phenanthrene	1.5	<0.0106	<0.0105	<0.0122	<0.0106	0.00007	0.0004
Pyrene	1.1	<0.0106	<0.0105	<0.0122	<0.0106	<0.00002	0.00076
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00023**	**0.00543**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-108A
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/20/2018	3/20/2019	3/18/2020	3/11/2021	4/7/2022	3/21/2023
pH (pH units)	--	6.05	6.22	5.90	6.22	6.61	6.19
Specific Conductance (µs/cm)	--	4560	1776	1715	4090	2870	4470
Ammonia (N) (mg/L)	--	5.51	6.32	7.18	6.29	6.34	7.3
Nitrate (N) (mg/L)	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloride (mg/L)	--	1710	1200	1260	2090	1430	1380
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.01	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.01	<0.005	<0.001
Lead (mg/L)	0.015	0.001	<0.001	0.00118	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.2	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0108	<0.0105	<0.0105	<0.0103	<0.0002	<0.00107
p-Chloro-m-cresol	0.0141	<0.0108	<0.0105	<0.0105	<0.0103	<0.00029	<0.00168
o-Cresol	18	<0.0108	<0.0105	<0.0105	<0.0103	<0.00044	<0.00127
m,p-Cresol	0.18	<0.0108	<0.0105	<0.0105	<0.0103	<0.0012	<0.00346
2,4,6-Trichlorophenol	0.002	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	<0.00047	<0.00135
2,4-Dinitrophenol	0.073	<0.0108	<0.0105	<0.0105	<0.0103	<0.00137	<0.00441
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00007	<0.00102
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0108	<0.0105	<0.0105	<0.0103	0.00005	<0.00005
Acenaphthylene	0.0939	<0.0108	<0.0105	<0.0105	<0.0103	<0.00001	<0.00006
Anthracene	11	<0.0108	<0.0105	<0.0105	<0.0103	<0.00002	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	0.00002 J	<0.00006
Benzo(b)Fluoranthene	0.000092	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	0.00004 J	0.00036
Benzo(k)Fluoranthene	0.00092	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	<0.00002	0.0001
Benzo(a)Pyrene	0.0002	<0.00006	<0.00007	<0.00006	<0.00006	0.00002 J	0.00029
Bis(2-ethylhexyl)phthalate	0.006	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	<0.00039	<0.0011
Carbazole	0.034	<0.0108	<0.0105	<0.0105	<0.0103	<0.00278	<0.00802
Chrysene	0.0092	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	0.00003 J	<0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	<0.00042	<0.00122
Di-n-octyl phthalate	0.006	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	<0.00031	<0.00173
Fluoranthene	1.5	<0.0108	<0.0105	<0.0105	<0.0103	0.00007	0.00008
Fluorene	1.5	<0.0108	<0.0105	<0.0105	<0.0103	0.00003 J	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	<0.00002	0.00025
2-Methylnaphthylene	0.00626	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	<0.00005	<0.00005
Naphthalene	0.00062	***<0.0108***	***<0.0105***	***<0.0105***	***<0.0103***	0.00004 J	<0.00015
Phenanthrene	1.5	<0.0108	<0.0105	<0.0105	<0.0103	0.00007	0.00022
Pyrene	1.1	<0.0108	<0.0105	<0.0105	<0.0103	0.00004 J	<0.00005
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00041**	**0.0013**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-128
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/21/2018	3/27/2019	3/18/2020	3/15/2021	4/5/2022	3/21/2023
pH (pH units)	--	6.17	6.07	5.90	6.18	6.39	6.18
Specific Conductance (µs/cm)	--	3080	2700	1341	3130	2580	3310
Ammonia (N) (mg/L)	--	8.51	9.32	9.19	10.1	10.9	10.1
Nitrate (N) (mg/L)	--	0.681	<0.5	<0.5	<0.05	<25	<0.5
Chloride (mg/L)	--	1000	940	847	1250	989	906
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.004	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	0.00285	0.00401	<0.005	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	0.00361	0.00323	0.00219	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.08	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0105	<0.0104	<0.0105	<0.0105	<0.0002	<0.00107
p-Chloro-m-cresol	0.0141	<0.0105	<0.0104	<0.0105	<0.0105	<0.00029	<0.00168
o-Cresol	18	<0.0105	<0.0104	<0.0105	<0.0105	<0.00044	<0.00127
m,p-Cresol	0.18	<0.0105	<0.0104	<0.0105	<0.0105	<0.00121	<0.00346
2,4,6-Trichlorophenol	0.002	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00047	<0.00135
2,4-Dinitrophenol	0.073	<0.0105	<0.0104	<0.0105	<0.0105	<0.00139	<0.00441
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00007	<0.00102
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0105	<0.0104	<0.0105	<0.0105	0.00002 J	0.00009
Acenaphthylene	0.0939	<0.0105	<0.0104	<0.0105	<0.0105	<0.00001	<0.00006
Anthracene	11	<0.0105	<0.0104	<0.0105	<0.0105	0.00002 J	0.00007
Benzo(a)Anthracene	0.000092	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00003	0.00006
Benzo(b)Fluoranthene	0.000092	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	0.00004 J	0.00044
Benzo(k)Fluoranthene	0.00092	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00003	0.00012
Benzo(a)Pyrene	0.0002	<0.00006	<0.00006	<0.00006	<0.00007	0.00002 J	0.00035
Bis(2-ethylhexyl)phthalate	0.006	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00039	<0.0011
Carbazole	0.034	<0.0105	<0.0104	<0.0105	<0.0105	<0.00281	<0.00802
Chrysene	0.0092	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	0.00003 J	0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00043	<0.00122
Di-n-octyl phthalate	0.006	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00031	<0.00173
Fluoranthene	1.5	<0.0105	<0.0104	<0.0105	<0.0105	0.00005 J	0.00017
Fluorene	1.5	<0.0105	<0.0104	<0.0105	<0.0105	0.00002 J	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00003	0.00024
2-Methylnaphthylene	0.00626	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	<0.00005	0.00011
Naphthalene	0.00062	***<0.0105***	***<0.0104***	***<0.0105***	***<0.0105***	0.00004 J	0.00015
Phenanthrene	1.5	<0.0105	<0.0104	<0.0105	<0.0105	0.00006	0.00206
Pyrene	1.1	<0.0105	<0.0104	<0.0105	<0.0105	0.00004 J	0.0001
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00034**	**0.00401**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL RW-3B
AQUIFER = LOWER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	0.00361	<0.002
Chromium (mg/L)	0.1	<0.001	0.00141	<0.001	<0.001	0.0174	<0.001
Lead (mg/L)	0.015	***0.017***	0.00717	0.00735	<0.001	***0.0184***	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0103	<0.0104	<0.0102	<0.0103	<0.00019	<0.00107
p-Chloro-m-cresol	0.0141	<0.0103	<0.0104	<0.0102	<0.0103	<0.00028	<0.00168
o-Cresol	18	<0.0103	<0.0104	<0.0102	<0.0103	<0.00042	<0.00126
m,p-Cresol	0.18	<0.0103	<0.0104	<0.0102	<0.0103	<0.00115	<0.00344
2,4,6-Trichlorophenol	0.002	***<0.0103***	***<0.0104***	***<0.0102***	***<0.0103***	<0.00045	<0.00134
2,4-Dinitrophenol	0.073	<0.0103	<0.0104	<0.0102	<0.0103	<0.00131	<0.00439
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.00102
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.35	0.521	0.431	<0.0103	0.135	0.0338
Acenaphthylene	0.0939	<0.0103	<0.0104	<0.0102	<0.0103	0.00171	0.00051
Anthracene	11	0.0935	0.0576	0.0879	<0.0103	0.0415	0.00453
Benzo(a)Anthracene	0.000092	***0.105***	***0.0707***	***0.0934***	***<0.0103***	***0.0443***	***0.152***
Benzo(b)Fluoranthene	0.000092	***0.0652***	***0.0479***	***0.0651***	***<0.0103***	***0.0391***	***0.157***
Benzo(k)Fluoranthene	0.00092	***<0.0515***	***0.0154***	***0.0346***	***<0.0103***	***0.00951***	***0.219***
Benzo(a)Pyrene	0.0002	***0.0424***	***0.0294***	***0.0508***	<0.00006	***0.0189***	***0.0127***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0103***	***<0.0104***	***<0.0102***	***<0.0103***	<0.00037	<0.0011
Carbazole	0.034	0.0108	***0.158***	***0.0529***	***<0.0103***	<0.00266	<0.00798
Chrysene	0.0092	***0.0738***	***0.0534***	***0.0736***	***<0.0103***	***0.037***	***0.139***
Dibenz(a,h)anthracene	0.0000092	***<0.0103***	***<0.0104***	***<0.0102***	***<0.0103***	***0.0028***	***0.00062***
Dibenzofuran	0.0012	***0.208***	***0.295***	***0.235***	***<0.0103***	***0.0754***	***0.0165***
Di-n-octyl phthalate	0.006	***<0.0103***	***<0.0104***	***<0.0102***	***<0.0103***	<0.00029	<0.00173
Fluoranthene	1.5	<0.0103	0.31	0.479	<0.0103	0.174	0.0275
Fluorene	1.5	0.311	0.402	0.346	<0.0103	0.115	0.0261
Indeno(1,2,3-c,d) pyrene	0.000092	***0.0164***	***0.0112***	***0.017***	***<0.0103***	***0.00681***	***0.00159***
2-Methylnaphthylene	0.00626	***0.198***	***0.151***	***0.231***	***<0.0103***	***0.0186***	***0.0109***
Naphthalene	0.00062	***0.456***	***0.0223***	***0.581***	***<0.0103***	***0.00789***	***0.0188***
Phenanthrene	1.5	0.994	0.588	0.872	<0.0103	0.189	0.0315
Pyrene	1.1	0.271	0.194	0.227	<0.0103	0.129	0.0782
TOTAL		**3.1951**	**2.9269**	**3.8773**	**0.0000**	**1.04552**	**0.93025**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL RW-8A
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/14/2018	3/20/2019	3/19/2020	3/9/2021	4/4/2022	3/27/2023
pH (pH units)	--	7.20	6.30	6.70	8.81	10.50	10.70
Specific Conductance (µs/cm)	--	630	370	370	1140	580	716
Ammonia (N) (mg/L)	--	2.69	0.75	0.81	<0.21	3.59	4.49
Nitrate (N) (mg/L)	--	<0.5	<0.5	<0.5	<1	<1	<0.5
Chloride (mg/L)	--	97.2	7.01	14.6	248	38.2	95.6
Arsenic (mg/L)	0.01	0.006	0.00202	0.00215	<0.002	0.00431	0.0021
Chromium (mg/L)	0.1	<0.001	<0.001	0.00136	<0.001	<0.001	0.0018
Lead (mg/L)	0.015	***0.078***	***0.0201***	***0.0173***	<0.001	<0.001	0.00418
Nickel (mg/L)	0.10	0.083	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	0.00571	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.00571**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	0.0242	<0.0107	<0.0104	<0.0103	<0.0002	<0.00111
p-Chloro-m-cresol	0.0141	<0.0103	<0.0107	<0.0104	<0.0103	<0.00028	<0.00175
o-Cresol	18	<0.0103	<0.0107	<0.0104	<0.0103	<0.00043	<0.00131
m,p-Cresol	0.18	<0.0103	<0.0107	<0.0104	<0.0103	<0.00117	<0.00359
2,4,6-Trichlorophenol	0.002	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	<0.00045	<0.0014
2,4-Dinitrophenol	0.073	<0.0103	<0.0107	<0.0104	<0.0103	0.0129	<0.00457
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00007	<0.00106
TOTAL		**0.0242**	**0.0000**	**0.0000**	**0.0000**	**0.0129**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.0801	0.0174	<0.0104	<0.0103	0.00346	0.00854
Acenaphthylene	0.0939	<0.0103	<0.0107	<0.0104	<0.0103	0.00012	0.00011
Anthracene	11	<0.0103	<0.0107	<0.0104	<0.0103	0.0001	0.00017
Benzo(a)Anthracene	0.000092	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	0.00003 J	<0.00006
Benzo(b)Fluoranthene	0.000092	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	<0.00003	<0.00005
Benzo(k)Fluoranthene	0.00092	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	<0.00003	<0.00005
Benzo(a)Pyrene	0.0002	***0.00031***	<0.00007	<0.00006	<0.00006	<0.00002	<0.00006
Bis(2-ethylhexyl)phthalate	0.006	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	<0.00038	<0.00114
Carbazole	0.034	***0.0345***	***<0.0107***	***<0.0104***	***<0.0103***	<0.00271	<0.00832
Chrysene	0.0092	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	0.00003 J	<0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***0.013***	***<0.0107***	***<0.0104***	***<0.0103***	0.00053 J	***0.0018***
Di-n-octyl phthalate	0.006	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	<0.0003	<0.0018
Fluoranthene	1.5	<0.0103	<0.0107	<0.0104	<0.0103	0.00021	0.00035
Fluorene	1.5	0.0116	<0.0107	<0.0104	<0.0103	0.00094	0.0026
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0103***	***<0.0107***	***<0.0104***	***<0.0103***	***<0.00003***	<0.00017
2-Methylnaphthylene	0.00626	***0.0123***	***<0.0107***	***<0.0104***	***<0.0103***	0.00008	0.00069
Naphthalene	0.00062	***0.401***	***0.0214***	***<0.0104***	***<0.0103***	0.0001	0.00291
Phenanthrene	1.5	<0.0103	<0.0107	<0.0104	<0.0103	0.00055	0.00211
Pyrene	1.1	<0.0103	<0.0107	<0.0104	<0.0103	0.00013	0.00016
TOTAL		**0.55281**	**0.0388**	**0.0000**	**0.0000**	**0.00628**	**0.01944**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-24
AQUIFER = LOWER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/22/2018	3/19/2019	3/18/2020	3/10/2021	4/5/2022	3/20/2023
pH (pH units)	--	4.31	5.24	4.98	5.54	6.47	5.40
Specific Conductance (µs/cm)	--	2580	172.2	445	403	392	364
Ammonia (N) (mg/L)	--	<0.11	0.14	<0.21	<0.21	<0.21	<0.21
Nitrate (N) (mg/L)	--	3.2	2.75	3.86	2.63	3.34	2.68
Chloride (mg/L)	--	875	121	75.8	77.3	61.2	56.4
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0108	<0.0104	<0.0101	<0.0102	<0.0002	<0.00108
p-Chloro-m-cresol	0.0141	<0.0108	<0.0104	<0.0101	<0.0102	<0.00028	<0.00169
o-Cresol	18	<0.0108	<0.0104	<0.0101	<0.0102	<0.00043	<0.00127
m,p-Cresol	0.18	<0.0108	<0.0104	<0.0101	<0.0102	<0.00117	<0.00348
2,4,6-Trichlorophenol	0.002	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	***<0.00046***	<0.00135
2,4-Dinitrophenol	0.073	<0.0108	<0.0104	<0.0101	<0.0102	<0.00134	<0.00443
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00007	<0.00103
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0108	<0.0104	<0.0101	<0.0102	0.00002 J	<0.00005
Acenaphthylene	0.0939	<0.0108	<0.0104	<0.0101	<0.0102	0.00001 J	<0.00006
Anthracene	11	<0.0108	<0.0104	<0.0101	<0.0102	0.00002 J	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	<0.00003	0.00007
Benzo(b)Fluoranthene	0.000092	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	0.00004 J	***0.00067***
Benzo(k)Fluoranthene	0.00092	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	<0.00003	0.00021
Benzo(a)Pyrene	0.0002	<0.00006	<0.00007	<0.00006	<0.00006	0.00002 J	***0.00046***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	<0.00038	<0.00111
Carbazole	0.034	<0.0108	<0.0104	<0.0101	<0.0102	<0.00272	<0.00806
Chrysene	0.0092	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	0.00003 J	0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	***<0.00004***	***0.00016***
Dibenzofuran	0.0012	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	<0.00041	<0.00123
Di-n-octyl phthalate	0.006	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	<0.0003	<0.00174
Fluoranthene	1.5	<0.0108	<0.0104	<0.0101	<0.0102	0.00003 J	0.00006
Fluorene	1.5	<0.0108	<0.0104	<0.0101	<0.0102	0.00003 J	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	<0.00003	***0.00041***
2-Methylnaphthylene	0.00626	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	<0.00005	<0.00005
Naphthalene	0.00062	***<0.0108***	***<0.0104***	***<0.0101***	***<0.0102***	0.00004 J	<0.00015
Phenanthrene	1.5	<0.0108	<0.0104	<0.0101	<0.0102	0.00008	0.00009
Pyrene	1.1	<0.0108	<0.0104	<0.0101	<0.0102	0.00002 J	<0.00005
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00034**	**0.00218**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-25
AQUIFER = LOWER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/20/2018	3/19/2019	3/10/2020	3/10/2021	4/3/2022	3/20/2023
pH (pH units)	--	5.93	5.78	5.45	5.67	6.63	5.66
Specific Conductance (µs/cm)	--	1900	813	719	1610	339	1640
Ammonia (N) (mg/L)	--	<0.1	0.17	<0.1	<0.21	<0.21	<0.21
Nitrate (N) (mg/L)	--	0.666	<0.5	<0.5	<10	<5	0.511
Chloride (mg/L)	--	589	604	500	477	55.3	443
Arsenic (mg/L)	0.01	0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0108	<0.011	<0.0104	<0.0102	<0.00019	<0.00106
p-Chloro-m-cresol	0.0141	<0.0108	<0.011	<0.0104	<0.0102	<0.00028	<0.00167
o-Cresol	18	<0.0108	<0.011	<0.0104	<0.0102	<0.00042	<0.00125
m,p-Cresol	0.18	<0.0108	<0.011	<0.0104	<0.0102	<0.00116	<0.00342
2,4,6-Trichlorophenol	0.002	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	<0.00045	<0.00133
2,4-Dinitrophenol	0.073	<0.0108	<0.011	<0.0104	<0.0102	<0.00132	<0.00436
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00007	<0.00101
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0108	<0.011	<0.0104	<0.0102	0.00002 J	<0.00005
Acenaphthylene	0.0939	<0.0108	<0.011	<0.0104	<0.0102	<0.00001	<0.00006
Anthracene	11	<0.0108	<0.011	<0.0104	<0.0102	0.00004 J	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	<0.00003	0.00007
Benzo(b)Fluoranthene	0.000092	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	0.00003 J	***0.00053***
Benzo(k)Fluoranathene	0.00092	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	<0.00003	0.00014
Benzo(a)Pyrene	0.0002	<0.00006	<0.00006	<0.00006	<0.00006	<0.00002	***0.00039***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	0.00133	<0.00109
Carbazole	0.034	<0.0108	<0.011	<0.0104	<0.0102	<0.00268	<0.00794
Chrysene	0.0092	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	0.00003 J	0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	<0.00041	<0.00121
Di-n-octyl phthalate	0.006	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	<0.00029	<0.00172
Fluoranthene	1.5	<0.0108	<0.011	<0.0104	<0.0102	0.00013	0.00035
Fluorene	1.5	<0.0108	<0.011	<0.0104	<0.0102	0.00002 J	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	<0.00003	***0.00029***
2-Methylnaphthylene	0.00626	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	<0.00005	<0.00005
Naphthalene	0.00062	***<0.0108***	***<0.011***	***<0.0104***	***<0.0102***	0.00004 J	<0.00015
Phenanthrene	1.5	<0.0108	<0.011	<0.0104	<0.0102	0.0001	0.00009
Pyrene	1.1	<0.0108	<0.011	<0.0104	<0.0102	0.00007	0.0008
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00181**	**0.00271**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-36
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/20/2018	3/12/2019	3/11/2020	3/10/2021	4/3/2022	3/22/2023
pH (pH units)	--	5.54	5.55	4.80	5.43	5.60	5.19
Specific Conductance (µs/cm)	--	449	419	147.8	393	478	400
Ammonia (N) (mg/L)	--	0.13	<0.11	<0.21	<0.21	<0.21	<0.21
Nitrate (N) (mg/L)	--	1.82	1.3	2.36	<2	1.42	2.58
Chloride (mg/L)	--	90.8	79.8	70.5	68.3	85	83
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	0.003	0.00757	0.00159	0.00196	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0109	<0.0103	<0.0106	<0.0103	<0.0002	<0.0011
p-Chloro-m-cresol	0.0141	<0.0109	<0.0103	<0.0106	<0.0103	<0.00029	<0.00173
o-Cresol	18	<0.0109	<0.0103	<0.0106	<0.0103	<0.00043	<0.0013
m,p-Cresol	0.18	<0.0109	<0.0103	<0.0106	<0.0103	<0.00118	<0.00355
2,4,6-Trichlorophenol	0.002	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.00046	<0.00138
2,4-Dinitrophenol	0.073	<0.0109	<0.0103	<0.0106	<0.0103	<0.00135	<0.00452
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00007	<0.00105
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0109	<0.0103	<0.0106	<0.0103	<0.00002	0.00012
Acenaphthylene	0.0939	<0.0109	<0.0103	<0.0106	<0.0103	<0.00001	<0.00006
Anthracene	11	<0.0109	<0.0103	<0.0106	<0.0103	0.00003 J	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.00003	<0.00006
Benzo(b)Fluoranthene	0.000092	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.00003	0.00026
Benzo(k)Fluoranthene	0.00092	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.00003	0.00008
Benzo(a)Pyrene	0.0002	<0.00006	<0.00006	<0.00006	<0.00006	<0.00002	0.00025
Bis(2-ethylhexyl)phthalate	0.006	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	0.00085 J	<0.00113
Carbazole	0.034	<0.0109	<0.0103	<0.0106	<0.0103	<0.00275	<0.00823
Chrysene	0.0092	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	0.00003 J	<0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	***<0.00004***	***<0.00017***
Dibenzofuran	0.0012	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.00042	<0.00126
Di-n-octyl phthalate	0.006	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.0003	<0.00178
Fluoranthene	1.5	<0.0109	<0.0103	<0.0106	<0.0103	0.00008	0.00007
Fluorene	1.5	<0.0109	<0.0103	<0.0106	<0.0103	0.00003 J	<0.00013
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.00003	***0.00023***
2-Methylnaphthylene	0.00626	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	<0.00005	0.00007
Naphthalene	0.00062	***<0.0109***	***<0.0103***	***<0.0106***	***<0.0103***	0.00005	0.00023
Phenanthrene	1.5	<0.0109	<0.0103	<0.0106	<0.0103	0.00009	0.00012
Pyrene	1.1	<0.0109	<0.0103	<0.0106	<0.0103	0.00006	<0.00005
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00122**	**0.00143**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-60A
AQUIFER = LOWER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/22/2018	3/27/2019	3/12/2020	3/15/2021	4/5/2022	3/27/2023
pH (pH units)	--	6.24	5.69	5.31	5.94	6.42	5.80
Specific Conductance (µs/cm)	--	189	188	88	204	239	210
Ammonia (N) (mg/L)	--	0.11	<0.11	<0.21	<0.21	<0.21	<0.21
Nitrate (N) (mg/L)	--	4.36	3.14	3.07	2.79	1.61	2.82
Chloride (mg/L)	--	23	30.2	17.8	22.3	36.3	11.5
Arsenic (mg/L)	0.01	<0.002	<0.002	0.00288	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.055	0.0312	***1.29***	0.0483	0.0833	0.00163
Lead (mg/L)	0.015	0.001	<0.001	0.0106	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	***0.421***	***0.134***	***0.375***	***<0.04***
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0109	<0.0108	<0.0106	<0.0104	<0.0002	<0.00107
p-Chloro-m-cresol	0.0141	<0.0109	<0.0108	<0.0106	<0.0104	<0.00029	<0.00168
o-Cresol	18	<0.0109	<0.0108	<0.0106	<0.0104	<0.00044	<0.00126
m,p-Cresol	0.18	<0.0109	<0.0108	<0.0106	<0.0104	<0.00121	<0.00344
2,4,6-Trichlorophenol	0.002	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	***<0.00047***	<0.00134
2,4-Dinitrophenol	0.073	<0.0109	<0.0108	<0.0106	<0.0104	<0.00138	<0.00439
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00007	<0.00102
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0109	<0.0108	<0.0106	<0.0104	0.00002 J	0.00007
Acenaphthylene	0.0939	<0.0109	<0.0108	<0.0106	<0.0104	<0.00001	<0.00006
Anthracene	11	<0.0109	<0.0108	<0.0106	<0.0104	<0.00002	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00003	<0.00006
Benzo(b)Fluoranthene	0.000092	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00003	<0.00005
Benzo(k)Fluoranthene	0.00092	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00003	<0.00005
Benzo(a)Pyrene	0.0002	<0.00006	<0.00007	<0.00006	<0.00006	<0.00002	<0.00006
Bis(2-ethylhexyl)phthalate	0.006	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00039	<0.0011
Carbazole	0.034	<0.0109	<0.0108	<0.0106	<0.0104	<0.0028	<0.00798
Chrysene	0.0092	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00003	<0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00043	<0.00122
Di-n-octyl phthalate	0.006	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00031	<0.00173
Fluoranthene	1.5	<0.0109	<0.0108	<0.0106	<0.0104	<0.00003	0.0001
Fluorene	1.5	<0.0109	<0.0108	<0.0106	<0.0104	0.00002 J	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00003	<0.00017
2-Methylnaphthylene	0.00626	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	<0.00005	0.0001
Naphthalene	0.00062	***<0.0109***	***<0.0108***	***<0.0106***	***<0.0104***	0.00004 J	0.00028
Phenanthrene	1.5	<0.0109	<0.0108	<0.0106	<0.0104	0.00005 J	0.00021
Pyrene	1.1	<0.0109	<0.0108	<0.0106	<0.0104	<0.00002	0.00006
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00013**	**0.00082**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-60A
AQUIFER = LOWER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/21/2018	3/27/2019	3/12/2020	3/15/2021	4/5/2022	3/23/2023
pH (pH units)	--	5.87	5.23	5.43	5.87	6.84	5.87
Specific Conductance (µs/cm)	--	207	584	117.7	224	208	185
Ammonia (N) (mg/L)	--	<0.11	<0.11	<0.21	<0.21	<0.21	<0.21
Nitrate (N) (mg/L)	--	3.17	3.29	2.35	2.63	1.45	2.33
Chloride (mg/L)	--	27.6	26.1	38.7	29	23.3	18.3
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0106	<0.0105	<0.0106	<0.0106	<0.00019	<0.00107
p-Chloro-m-cresol	0.0141	<0.0106	<0.0105	<0.0106	<0.0106	<0.00028	<0.00168
o-Cresol	18	<0.0106	<0.0105	<0.0106	<0.0106	<0.00042	<0.00127
m,p-Cresol	0.18	<0.0106	<0.0105	<0.0106	<0.0106	<0.00115	<0.00346
2,4,6-Trichlorophenol	0.002	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00045	<0.00135
2,4-Dinitrophenol	0.073	<0.0106	<0.0105	<0.0106	<0.0106	<0.00131	<0.00441
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.00102
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0106	<0.0105	<0.0106	<0.0106	<0.00002	0.00008
Acenaphthylene	0.0939	<0.0106	<0.0105	<0.0106	<0.0106	<0.00001	<0.00006
Anthracene	11	<0.0106	<0.0105	<0.0106	<0.0106	<0.00002	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00003	<0.00006
Benzo(b)Fluoranthene	0.000092	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00003	0.00021
Benzo(k)Fluoranthene	0.00092	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00003	0.00006
Benzo(a)Pyrene	0.0002	<0.00006	<0.00006	<0.00006	<0.00006	<0.00002	0.0002
Bis(2-ethylhexyl)phthalate	0.006	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00037	<0.0011
Carbazole	0.034	<0.0106	<0.0105	<0.0106	<0.0106	<0.00266	<0.00802
Chrysene	0.0092	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00003	<0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00041	<0.00122
Di-n-octyl phthalate	0.006	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00029	<0.00173
Fluoranthene	1.5	<0.0106	<0.0105	<0.0106	<0.0106	<0.00003	0.00007
Fluorene	1.5	<0.0106	<0.0105	<0.0106	<0.0106	<0.00002	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00003	0.0002
2-Methylnaphthylene	0.00626	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00005	0.00006
Naphthalene	0.00062	***<0.0106***	***<0.0105***	***<0.0106***	***<0.0106***	<0.00002	0.00023
Phenanthrene	1.5	<0.0106	<0.0105	<0.0106	<0.0106	<0.00002	0.00013
Pyrene	1.1	<0.0106	<0.0105	<0.0106	<0.0106	<0.00002	<0.00005
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00124**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
BOUNDARY WELL B-101
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/20/2018	3/27/2019	3/12/2020	3/11/2021	4/7/2022	3/21/2023
pH (pH units)	--	6.36	5.41	5.69	6.12	6.29	6.14
Specific Conductance (µs/cm)	--	230	179	103.6	340	364	288
Ammonia (N) (mg/L)	--	0.4	<0.11	<0.21	<0.21	<0.21	<0.21
Nitrate (N) (mg/L)	--	<0.5	<0.5	1.45	<0.5	<0.5	<0.5
Chloride (mg/L)	--	30.6	30	29.5	51.3	54.9	37.9
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001
Lead (mg/L)	0.015	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0105	<0.0101	<0.0102	<0.0103	<0.00019	<0.00107
p-Chloro-m-cresol	0.0141	<0.0105	<0.0101	<0.0102	<0.0103	<0.00028	<0.00168
o-Cresol	18	<0.0105	<0.0101	<0.0102	<0.0103	<0.00042	<0.00126
m,p-Cresol	0.18	<0.0105	<0.0101	<0.0102	<0.0103	<0.00114	<0.00344
2,4,6-Trichlorophenol	0.002	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.00044	<0.00134
2,4-Dinitrophenol	0.073	<0.0105	<0.0101	<0.0102	<0.0103	<0.0013	<0.00439
Pentachlorophenol	0.001	<0.001	<0.001	<0.001	<0.001	<0.00006	<0.00102
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0105	<0.0101	<0.0102	<0.0103	0.00004 J	0.00008
Acenaphthylene	0.0939	<0.0105	<0.0101	<0.0102	<0.0103	<0.00001	<0.00006
Anthracene	11	<0.0105	<0.0101	<0.0102	<0.0103	0.00002 J	0.00009
Benzo(a)Anthracene	0.000092	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	0.00002 J	0.00007
Benzo(b)Fluoranthene	0.000092	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.00003	0.00051
Benzo(k)Fluoranthene	0.00092	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.00002	0.00038
Benzo(a)Pyrene	0.0002	<0.00006	<0.00006	<0.00006	<0.00006	<0.00002	0.0004
Bis(2-ethylhexyl)phthalate	0.006	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.00037	<0.0011
Carbazole	0.034	<0.0105	<0.0101	<0.0102	<0.0103	<0.00265	<0.00798
Chrysene	0.0092	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.00003	0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.0004	<0.00122
Di-n-octyl phthalate	0.006	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.00029	<0.00173
Fluoranthene	1.5	<0.0105	<0.0101	<0.0102	<0.0103	0.00007	0.00152
Fluorene	1.5	<0.0105	<0.0101	<0.0102	<0.0103	0.00004 J	0.00023
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	<0.00002	0.00026
2-Methylnaphthylene	0.00626	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	0.00005	0.00007
Naphthalene	0.00062	***<0.0105***	***<0.0101***	***<0.0102***	***<0.0103***	0.00009	0.00021
Phenanthrene	1.5	<0.0105	<0.0101	<0.0102	<0.0103	0.00012	0.00029
Pyrene	1.1	<0.0105	<0.0101	<0.0102	<0.0103	0.00004 J	0.00421
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.00049**	**0.00837**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
EFFECTIVENESS WELL E-1
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/11/2021	9/23/2021	4/7/2022	9/21/2022	3/23/2023	10/5/2023
pH (pH units)	--	6.75	6.86	6.92	6.77	6.86	6.83
Specific Conductance (µs/cm)	--	1840	2360	2330	1990	3120	3210
Ammonia (N) (mg/L)	--	13.2	17.4	18.1	18.5	20.1	21
Nitrate (N) (mg/L)	--	1.04	12.8	11.6	1.55	1.94	1.89
Chloride (mg/L)	--	429	682	696	574	804	721
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	0.00255
Chromium (mg/L)	0.1	0.00256	0.00382	0.00581	0.00473	0.00533	0.00441
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	***0.0235***	***0.0189***	***0.0191***	***0.0086***	***0.0412***	***0.0389***
Ethylbenzene	0.7	0.0372	0.00974	0.0083	<0.005	0.0207	0.0178
TOTAL		**0.0607**	**0.02864**	**0.0274**	**0.0086**	**0.0619**	**0.0567**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0104	<0.0002	<0.0002	0.00036 J	<0.00108	<0.00108
p-Chloro-m-cresol	0.0141	<0.0104	<0.00029	<0.00029	<0.00029	<0.00169	<0.0017
o-Cresol	18	<0.0104	<0.00043	<0.00043	<0.00043	<0.00127	<0.00128
m,p-Cresol	0.18	<0.0104	<0.00118	<0.00118	<0.00118	<0.00348	<0.00349
2,4,6-Trichlorophenol	0.002	***<0.0104***	<0.00046	<0.00046	<0.00046	<0.00135	<0.00136
2,4-Dinitrophenol	0.073	<0.0104	<0.00134	<0.00135	<0.00134	<0.00443	<0.00445
Pentachlorophenol	0.001	<0.001	<0.00007	<0.00007	<0.00007	<0.00103	<0.00103
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.00036**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.201	0.191	0.0774	0.257	0.308	0.361
Acenaphthylene	0.0939	0.0142	0.0034	0.00368	0.00397	0.00513	0.00272
Anthracene	11	<0.0104	0.0144	0.00088	0.0118	0.00509	0.0145
Benzo(a)Anthracene	0.000092	***0.0144***	***0.0124***	***0.00496***	***0.0147***	***0.0129***	***0.0096***
Benzo(b)Fluoranthene	0.000092	***<0.0104***	***0.0206***	***0.0042***	***0.00919***	***0.00642***	***0.00615***
Benzo(k)Fluoranthene	0.00092	***<0.0104***	***<0.0127***	***0.00106***	***0.00289***	***0.101***	***0.00212***
Benzo(a)Pyrene	0.0002	***0.00603***	***0.0102***	***0.00266***	***0.00675***	***0.00423***	***0.00387***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0104***	0.00521	0.00222	***0.00661***	0.00203	0.00385
Carbazole	0.034	***<0.0104***	0.00749 J	<0.00273	0.0041 J	<0.00806	0.00551
Chrysene	0.0092	***0.0125***	***0.0155***	0.00549	***0.0145***	***0.0111***	*0.00809*
Dibenz(a,h)anthracene	0.0000092	***<0.0104***	***0.00052***	***0.0001 J***	***0.00074***	***<0.00016***	***<0.00184***
Dibenzofuran	0.0012	***0.0381***	***0.102***	***0.00499***	***0.0815***	***0.0306***	***0.132***
Di-n-octyl phthalate	0.006	***<0.0104***	<0.0003	<0.0003	<0.0003	<0.00174	<0.00175
Fluoranthene	1.5	0.0916	0.0814	0.0289	0.0963	0.163	0.0634
Fluorene	1.5	0.0418	0.00113	0.00316	0.0721	0.0311	0.181
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0104***	***0.00237***	***0.00039***	***0.00231***	***0.00018***	***<0.00168***
2-Methylnaphthylene	0.00626	***<0.0104***	***0.155***	0.00176	***0.0832***	***0.0123***	***0.143***
Naphthalene	0.00062	***<0.0104***	***0.0258***	0.00037	***0.0152***	***0.0164***	***0.0168***
Phenanthrene	1.5	0.0468	0.155	0.00173	0.0202	0.00417	0.0319
Pyrene	1.1	0.0754	0.0649	0.019	0.0406	0.132	0.0938
TOTAL		**0.54183**	**0.86832**	**0.16295**	**0.74366**	**0.84565**	**1.07931**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
EFFECTIVENESS WELL T-1
AQUIFER = UPPER LOWER/UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/10/2021	9/23/2021	3/29/2022	9/21/2022	3/27/2023	10/3/2023
pH (pH units)	--	7.39	6.98	7.70	7.49	8.30	7.62
Specific Conductance (µs/cm)	--	172	66	204	224	197	306
Ammonia (N) (mg/L)	--	<0.21	<0.21	0.27	0.45	<0.21	0.61
Nitrate (N) (mg/L)	--	<0.5	0.637	0.766	<0.5	<0.5	<0.5
Chloride (mg/L)	--	1.13	1.13	4.8	5.49	<5	3.48
Arsenic (mg/L)	0.01	0.00414	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.00406	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	0.00449	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.102	<0.00087	<0.00091	<0.00087	<0.00087	<0.00131
p-Chloro-m-cresol	0.0141	<0.102	<0.00107	<0.00113	<0.00107	<0.00107	<0.00246
o-Cresol	18	<0.102	<0.00091	<0.00096	<0.00091	<0.00091	<0.00184
m,p-Cresol	0.18	<0.102	<0.0009	<0.00095	<0.0009	<0.0009	<0.00179
2,4,6-Trichlorophenol	0.002	***<0.102***	***<0.00266***	***<0.0028***	***<0.00266***	***<0.00266***	<0.00203
2,4-Dinitrophenol	0.073	<0.102	<0.00314	0.00523 J	0.00808 J	<0.00314	<0.00272
Pentachlorophenol	0.001	***<0.102***	***<0.0028***	***<0.00295***	***0.00607 J***	***<0.0028***	***0.00379 J***
TOTAL		**0.0000**	**0.0000**	**0.00523**	**0.01415**	**0.0000**	**0.00379**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.722	<0.00116	0.00161 J	<0.00116	<0.00116	0.095
Acenaphthylene	0.0939	<0.102	<0.0011	<0.00116	<0.0011	<0.0011	0.0138
Anthracene	11	0.275	<0.00102	0.00134 J	<0.00102	0.0113	0.0392
Benzo(a)Anthracene	0.000092	***0.81***	***0.00192 J***	***0.00721 J***	***<0.0009***	***0.0741***	***0.151***
Benzo(b)Fluoranthene	0.000092	***0.713***	***0.00196 J***	***0.0103 J***	***0.00196 J***	***0.0605***	***0.206***
Benzo(k)Fluoranthene	0.00092	***0.347***	***<0.00104***	***<0.0011***	***0.00534 J***	***0.0238***	***0.051***
Benzo(a)Pyrene	0.0002	***0.491***	***0.0012 J***	***0.00504 J***	***0.00126 J***	***0.0318***	***0.0905***
Bis(2-ethylhexyl)phthalate	0.006	***<0.102***	0.00167 J	<0.00124	<0.00118	<0.00118	<0.00317
Carbazole	0.034	<0.102	0.00148 J	<0.00097	<0.00092	<0.00092	0.00585 J
Chrysene	0.0092	***0.75***	0.00168 J	0.00608 J	<0.00095	***0.0556***	***0.194***
Dibenz(a,h)anthracene	0.0000092	***<0.0102***	***<0.00069***	***0.00221 J***	***<0.00069***	***<0.00069***	***0.014***
Dibenzofuran	0.0012	***0.162***	<0.00107	<0.00113	<0.00107	<0.00107	***0.0251***
Di-n-octyl phthalate	0.006	***0.0269***	<0.00139	<0.00147	<0.00139	<0.00139	<0.00352
Fluoranthene	1.5	2.57	0.00215 J	0.0126	0.00821 J	0.359	0.183
Fluorene	1.5	0.563	<0.00104	0.00129 J	<0.00104	<0.00104	0.0548
Indeno(1,2,3-c,d) pyrene	0.000092	***0.14***	***<0.00091***	***0.0036 J***	***<0.00091***	***<0.00091***	***0.0408***
2-Methylnaphthylene	0.00626	***0.232***	<0.00115	<0.00122	<0.00115	<0.00115	***0.00795 J***
Naphthalene	0.00062	***<0.102***	***<0.00112***	***0.205***	***<0.00112***	***<0.00112***	***<0.00202***
Phenanthrene	1.5	1.76	<0.00096	0.145	<0.00096	0.0235	0.0358
Pyrene	1.1	2.96	0.00219 J	0.0155	0.0088 J	0.321	0.163
TOTAL		**12.5219**	**0.01425**	**0.41678**	**0.02557**	**0.9606**	**1.3708**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
EFFECTIVENESS WELL T-2
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/23/2021	3/28/2022	9/21/2022	4/5/2023	10/3/2023
pH (pH units)	--	6.95	6.81	6.93	6.61	6.92	6.72
Specific Conductance (µs/cm)	--	1130	871	791	1110	799	970
Ammonia (N) (mg/L)	--	1.32	4	4.55	7.77	2.44	6.02
Nitrate (N) (mg/L)	--	<0.5	16	<2	<0.5	<0.5	<0.5
Chloride (mg/L)	--	130	63.8	53.7	88	19.6	48.3
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	0.0071	<0.005	<0.005
Ethylbenzene	0.7	0.00623	0.0111	0.00887	0.0301	<0.005	0.00735
TOTAL		**0.00623**	**0.0111**	**0.00887**	**0.0372**	**0.000**	**0.00735**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	0.0157	0.00899 J	<0.00088	0.00994 J	<0.00134	0.00204 J
p-Chloro-m-cresol	0.0141	<0.0103	0.0017 J	<0.00109	0.00118 J	<0.00252	<0.00244
o-Cresol	18	<0.0103	<0.00091	<0.00092	<0.0009	<0.00189	<0.00184
m,p-Cresol	0.18	<0.0103	<0.0009	<0.00092	<0.00089	<0.00184	<0.00178
2,4,6-Trichlorophenol	0.002	***<0.0103***	***<0.00267***	***<0.00271***	***<0.00265***	<0.00209	<0.00202
2,4-Dinitrophenol	0.073	<0.0103	<0.00316	<0.0032	0.00818 J	<0.00279	<0.0027
Pentachlorophenol	0.001	***<0.0103***	***<0.00282***	***<0.00286***	***0.006 J***	***<0.00317***	***<0.00307***
TOTAL		**0.0157**	**0.01069**	**0.0000**	**0.0253**	**0.0000**	**0.00204**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.2	0.574	0.224	0.446	0.0525	0.483
Acenaphthylene	0.0939	<0.0103	0.00513 J	0.0146	0.00483 J	<0.00234	0.00663 J
Anthracene	11	0.0159	0.0246	0.0713	0.0371	<0.00234	0.107
Benzo(a)Anthracene	0.000092	***<0.0103***	***0.0141***	***0.0936***	***0.111***	***0.0121***	***0.125***
Benzo(b)Fluoranthene	0.000092	***<0.0103***	***0.0107***	***0.054***	***0.0436***	***<0.00262***	***0.121***
Benzo(k)Fluoranthene	0.00092	***<0.0103***	***0.00415 J***	***0.0171***	***0.0205***	***<0.0031***	***0.0364***
Benzo(a)Pyrene	0.0002	***<0.0103***	***0.00569 J***	***0.0354***	***0.0342***	***<0.00279***	***0.0721***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0103***	0.00177 J	<0.0012	<0.00117	<0.00326	<0.00315
Carbazole	0.034	***0.0811***	***0.0629***	0.00876 J	***0.1***	<0.00355	***0.0675***
Chrysene	0.0092	***<0.0103***	***0.0132***	***0.0674***	***0.116***	<0.0024	***0.173***
Dibenz(a,h)anthracene	0.0000092	***<0.0103***	***0.00091 J***	***0.00507 J***	***0.00507 J***	***<0.0015***	***0.00978 J***
Dibenzofuran	0.0012	***0.0891***	***0.0871***	***0.0599***	***0.208***	***<0.0022***	***0.145***
Di-n-octyl phthalate	0.006	***<0.0103***	<0.0014	<0.00142	<0.00138	<0.00362	<0.00351
Fluoranthene	1.5	0.0457	0.0527	0.493	0.721	0.0609	0.752
Fluorene	1.5	0.111	0.109	0.14	0.314	<0.00236	0.352
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0103***	***0.002 J***	***0.013***	***0.0131***	***<0.00265***	***0.0257***
2-Methylnaphthylene	0.00626	***0.0752***	***0.101***	0.00596 J	***0.167***	***<0.00224***	***0.133***
Naphthalene	0.00062	***0.0559***	***0.071***	***<0.00114***	***0.197***	***<0.00207***	***0.0474***
Phenanthrene	1.5	0.0587	0.0938	0.466	0.641	0.014	0.667
Pyrene	1.1	0.0283	0.0461	0.314	0.309	0.0461	0.334
TOTAL		**0.7609**	**1.27985**	**2.08309**	**3.4884**	**0.1856**	**3.65751**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
EFFECTIVENESS WELL RW-3A
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/10/2021	9/22/2021	3/29/2022	9/21/2022	3/22/2023	10/2/2023
pH (pH units)	--	7.23	7.37	9.51	6.78	9.70	8.31
Specific Conductance (µs/cm)	--	635	422	1050	726	977	994
Ammonia (N) (mg/L)	--	7.23	9.23	7.82	3.16	7.36	9.54
Nitrate (N) (mg/L)	--	<0.5	0.82	<2	<0.5	1.37	0.885
Chloride (mg/L)	--	68.6	20.9	51.6	77	49.4	46
Arsenic (mg/L)	0.01	<0.002	0.00207	0.00201	<0.002	0.00848	0.00445
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	0.0014	0.00162
Lead (mg/L)	0.015	<0.001	0.00112	<0.001	<0.001	0.00234	***0.0371***
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	***0.00691***	***0.0066***	***0.00788***
Ethylbenzene	0.7	0.00539	<0.005	0.00733	0.0263	0.0117	0.0152
TOTAL		**0.00539**	**0.000**	**0.00733**	**0.03321**	**0.0183**	**0.02308**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	0.0167	0.00108	0.0036	0.114	0.00954	0.144
p-Chloro-m-cresol	0.0141	***<0.0103***	<0.00028	<0.0003	0.00636 J	<0.00179	***<0.0168***
o-Cresol	18	<0.0103	<0.00043	<0.00045	0.0158	0.00308	<0.0126
m,p-Cresol	0.18	<0.0103	0.00449	<0.00124	0.0165	0.00958	0.0663
2,4,6-Trichlorophenol	0.002	***<0.0103***	<0.00045	<0.00048	<0.00045	<0.00143	***<0.0134***
2,4-Dinitrophenol	0.073	***<0.0103***	<0.00133	<0.00141	<0.00132	<0.0047	<0.0439
Pentachlorophenol	0.001	<0.001	<0.00066	<0.00007	<0.00007	***<0.0109***	***<0.0102***
TOTAL		**0.0167**	**0.00557**	**0.0036**	**0.15266**	**0.0222**	**0.2103**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.183	0.571	0.142	0.376	***3.12***	***7.01***
Acenaphthylene	0.0939	<0.0103	0.0173	0.00415	0.00406	0.0662	0.0286
Anthracene	11	0.0111	0.27	0.0558	0.02	0.609	3.34
Benzo(a)Anthracene	0.000092	***<0.0103***	***0.52***	***0.153***	***0.00161***	***2.82***	***3.91***
Benzo(b)Fluoranthene	0.000092	***<0.0103***	***0.908***	***0.115***	***0.0009***	***2.74***	***1.92***
Benzo(k)Fluoranthene	0.00092	***<0.0103***	***0.561***	***0.0368***	***0.00019 J***	***3.77***	***0.636***
Benzo(a)Pyrene	0.0002	***0.0032***	***0.245***	***0.0749***	***0.00055***	***1.76***	***1.14***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0103***	<0.00376	<0.0004	<0.00037	***0.0185***	***<0.011***
Carbazole	0.034	***0.0717***	***0.117***	***0.0811***	***0.657***	***0.0612***	***0.787***
Chrysene	0.0092	***<0.0103***	***0.694***	***0.158***	***0.00129***	***2.48***	***3.82***
Dibenz(a,h)anthracene	0.0000092	***<0.0103***	***0.0204***	***0.00868***	***0.00033***	***0.306***	***0.0744***
Dibenzofuran	0.0012	***0.0829***	***0.276***	***0.0299***	***0.207***	***1.65***	***4.64***
Di-n-octyl phthalate	0.006	***<0.0103***	<0.00297	<0.00032	<0.0003	***<0.0185***	***<0.0173***
Fluoranthene	1.5	0.0427	***2.55***	0.57	0.0332	***7.73***	***12.1***
Fluorene	1.5	0.109	0.286	0.0504	0.213	***3.46***	***6.94***
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0103***	***0.0816***	***0.0258***	***0.00043***	***0.205***	***0.318***
2-Methylnaphthylene	0.00626	***0.0596***	***0.235***	0.00253	***0.38***	***0.713***	***4.29***
Naphthalene	0.00062	***0.0144***	***0.541***	***0.00263***	***4.14***	***1.2***	***10.9***
Phenanthrene	1.5	0.104	***1.53***	0.0894	0.222	***9.74***	***16.7***
Pyrene	1.1	0.0186	***1.84***	0.165	0.0171	***5.73***	***7.84***
TOTAL		**0.7002**	**11.2633**	**1.76509**	**6.27466**	**48.1789**	**86.394**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
EFFECTIVENESS WELL RW-4
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/22/2021	4/3/2022	9/19/2022	3/27/2023	10/5/2023
pH (pH units)	--	6.91	6.97	6.66	7.10	6.72	6.68
Specific Conductance (µs/cm)	--	130	57	123	449	363	460
Ammonia (N) (mg/L)	--	<0.21	<0.21	<0.21	1.46	1.86	3.65
Nitrate (N) (mg/L)	--	0.818	<0.5	2.53	<0.5	<0.5	<0.5
Chloride (mg/L)	--	18.30	0.71	3.15	60.00	53.10	84.3
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.00256	0.00105	<0.001	<0.001	<0.001	0.0012
Lead (mg/L)	0.015	0.00276	<0.001	<0.001	<0.001	<0.001	0.0011
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	0.0179	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.0179**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0104	<0.00019	<0.0002	0.00556	<0.00107	<0.00108
p-Chloro-m-cresol	0.0141	<0.0104	<0.00028	<0.00029	<0.00028	<0.00168	<0.0017
o-Cresol	18	<0.0104	<0.00042	<0.00044	0.00097 J	<0.00126	<0.00128
m,p-Cresol	0.18	<0.0104	<0.00115	<0.00122	<0.00117	<0.00344	<0.00349
2,4,6-Trichlorophenol	0.002	***<0.0104***	<0.00045	<0.00047	<0.00046	<0.00134	<0.00136
2,4-Dinitrophenol	0.073	<0.0104	<0.00132	<0.00139	<0.00134	<0.00439	<0.00445
Pentachlorophenol	0.001	<0.001	<0.00006	<0.00007	<0.00007	<0.00102	<0.00103
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.00653**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0104	0.00007	0.00002 J	0.212	0.0078	0.00894
Acenaphthylene	0.0939	<0.0104	<0.00001	<0.00001	0.0018	0.00027	<0.00006
Anthracene	11	<0.0104	<0.00002	0.00003 J	0.00219	0.00006	0.00028
Benzo(a)Anthracene	0.000092	***<0.0104***	<0.00003	<0.00003	<0.00003	<0.00006	***0.00015***
Benzo(b)Fluoranthene	0.000092	***<0.0104***	<0.00003	<0.00003	<0.00003	<0.00005	***0.00019***
Benzo(k)Fluoranthene	0.00092	***<0.0104***	<0.00003	<0.00003	<0.00003	<0.00005	0.0001
Benzo(a)Pyrene	0.0002	<0.00006	<0.00002	<0.00002	<0.00002	<0.00006	0.00008
Bis(2-ethylhexyl)phthalate	0.006	***<0.0104***	<0.00037	0.00051 J	<0.00038	<0.0011	<0.00111
Carbazole	0.034	<0.0104	<0.00267	<0.00282	***0.246***	0.0245	***<0.0515***
Chrysene	0.0092	***<0.0104***	<0.00003	0.00003 J	<0.00003	<0.00005	0.00018
Dibenz(a,h)anthracene	0.0000092	***<0.0104***	***<0.00004***	***<0.00004***	***<0.00004***	***<0.00017***	***<0.00016***
Dibenzofuran	0.0012	***<0.0104***	<0.00041	<0.00043	***0.0461***	<0.00122	***0.0029***
Di-n-octyl phthalate	0.006	***<0.0104***	<0.00029	<0.00031	<0.0003	<0.00173	<0.00175
Fluoranthene	1.5	<0.0104	0.00005 J	0.00007	0.0016	0.00012	0.00035
Fluorene	1.5	<0.0104	0.00004 J	0.00003 J	0.0573	0.00279	0.00399
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0104***	<0.00003	<0.00003	<0.00003	***<0.00018***	***<0.00017***
2-Methylnaphthylene	0.00626	***<0.0104***	0.00007	<0.00005	***0.0428***	0.00061	0.00051
Naphthalene	0.00062	***<0.0104***	0.0005	0.00005	***0.479***	***0.0133***	***0.00502***
Phenanthrene	1.5	<0.0104	0.00007	0.00009	0.0387	0.00032	0.00241
Pyrene	1.1	<0.0104	0.00003 J	0.00005	0.00064	0.00005	0.00014
TOTAL		**0.0000**	**0.00083**	**0.00088**	**1.12813**	**0.04982**	**0.02524**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
EFFECTIVENESS WELL RW-5
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/22/2021	4/3/2022	9/20/2022	3/27/2023	10/5/2023
pH (pH units)	--	6.93	6.88	6.65	6.34	7.17	6.93
Specific Conductance (µs/cm)	--	109	95	121	558	97	90
Ammonia (N) (mg/L)	--	<0.21	<0.21	<0.21	0.79	<0.21	0.32
Nitrate (N) (mg/L)	--	<0.5	1.66	<0.5	<0.5	0.536	<0.5
Chloride (mg/L)	--	6.66	0.95	7.37	74	<5	5.08
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	0.00361	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	0.00162	<0.001	***0.0181***	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	0.0241	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.0241**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0105	<0.00019	<0.0002	0.0768	<0.00108	<0.00108
p-Chloro-m-cresol	0.0141	<0.0105	<0.00028	<0.00028	0.00359 J	<0.00169	<0.0017
o-Cresol	18	<0.0105	<0.00042	<0.00043	0.0117	<0.00127	<0.00128
m,p-Cresol	0.18	<0.0105	<0.00115	<0.00117	0.00517	<0.00348	<0.00349
2,4,6-Trichlorophenol	0.002	***<0.0105***	<0.00045	<0.00046	***<0.00451***	<0.00135	<0.00136
2,4-Dinitrophenol	0.073	<0.0105	<0.00132	<0.00134	<0.0132	<0.00443	<0.00445
Pentachlorophenol	0.001	<0.001	<0.00006	<0.00007	<0.00007	<0.00103	<0.00103
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.09726**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0105	0.00006	<0.00002	0.508	0.00013	0.00038
Acenaphthylene	0.0939	<0.0105	<0.00001	<0.00001	0.00431	<0.00006	<0.00006
Anthracene	11	<0.0105	<0.00002	<0.00002	0.0121	0.00008	<0.00006
Benzo(a)Anthracene	0.000092	***<0.0105***	<0.00003	<0.00003	<0.00003	0.00009	<0.00006
Benzo(b)Fluoranthene	0.000092	***<0.0105***	<0.00003	<0.00003	<0.00003	0.00008	<0.00005
Benzo(k)Fluoranthene	0.00092	***<0.0105***	<0.00003	<0.00003	<0.00003	<0.00005	<0.00005
Benzo(a)Pyrene	0.0002	<0.00006	<0.00002	<0.00002	<0.00002	<0.00006	<0.00006
Bis(2-ethylhexyl)phthalate	0.006	***<0.0105***	<0.00037	0.00057 J	<0.00037	<0.00111	<0.00111
Carbazole	0.034	<0.0105	<0.00267	<0.00271	***0.755 J***	<0.00806	<0.00515
Chrysene	0.0092	***<0.0105***	<0.00003	<0.00003	<0.00003	0.00007	<0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0105***	***<0.00004***	***<0.00004***	***<0.00004***	***<0.00016***	***<0.00016***
Dibenzofuran	0.0012	***<0.0105***	<0.00041	<0.00041	***0.215***	<0.00123	<0.00124
Di-n-octyl phthalate	0.006	***<0.0105***	<0.00029	<0.0003	<0.0003	<0.00174	<0.00175
Fluoranthene	1.5	<0.0105	0.00004 J	0.00006	0.00497	0.00044	0.00021
Fluorene	1.5	<0.0105	0.00003 J	<0.00002	0.239	0.00018	0.00029
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0105***	<0.00003	<0.00003	<0.00003	<0.00018	<0.00017
2-Methylnaphthylene	0.00626	***<0.0105***	0.00006	<0.00005	***0.231***	0.00016	0.00013
Naphthalene	0.00062	***<0.0105***	0.00029	0.00004 J	***4.43***	0.00038	***0.00146***
Phenanthrene	1.5	<0.0105	0.00006	0.00006	0.192	0.00059	0.00033
Pyrene	1.1	<0.0105	0.00003 J	0.00005	0.00176	0.00024	0.00009
TOTAL		**0.0000**	**0.00057**	**0.00078**	**6.59314**	**0.00244**	**0.00289**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RC-1
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/21/2021	3/23/2022	9/20/2022	3/20/2023	9/27/2023
pH (pH units)	--	6.69	6.53	6.4	6.72	6.72	6.5
Specific Conductance (µs/cm)	--	1220	1230	1070	1030	1370	1160
Ammonia (N) (mg/L)	--	7.54	8.12	6.28	7.22	8.58	6.97
Nitrate (N) (mg/L)	--	<2.5	<0.5	7.53	0.73	0.624	0.643
Chloride (mg/L)	--	196	200	196	170	258	171
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	***0.0131***	***0.0128***	***0.0128***	***0.0124***	***0.0085***	***0.0133***
Ethylbenzene	0.7	0.0531	0.0475	0.0496	0.05	0.0314	0.0479
TOTAL		**0.0662**	**0.0603**	**0.0624**	**0.0624**	**0.03988**	**0.0612**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	0.578	0.452	0.734	0.459	0.305	0.479
p-Chloro-m-cresol	0.0141	<0.0107	***0.0148 J***	<0.0108	***0.0196***	<0.00106	***<0.0244***
o-Cresol	18	<0.0107	0.00191 J	<0.00185	0.00216 J	0.00426 J	<0.00184
m,p-Cresol	0.18	0.0213	0.0402	0.0188	0.0316	0.0111	0.0116
2,4,6-Trichlorophenol	0.002	***<0.0107***	***<0.00267***	***<0.00204***	***<0.00267***	***<0.00263***	<0.00202
2,4-Dinitrophenol	0.073	<0.0107	0.00763 J	<0.00272	<0.00316	<0.00311	<0.0027
Pentachlorophenol	0.001	***<0.0107***	***<0.00282***	***<0.0031***	***0.00615 J***	***<0.00278***	***<0.00307***
TOTAL		**0.5993**	**0.51654**	**0.7528**	**0.51851**	**0.32036**	**0.4906**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.384	0.316	0.515	0.245	0.191	0.429
Acenaphthylene	0.0939	***<0.0107***	<0.00111	<0.00229	0.00287 J	0.00502 J	<0.00227
Anthracene	11	0.0141	<0.00102	0.0138	0.0199	0.0483	0.0156
Benzo(a)Anthracene	0.000092	***<0.0107***	***0.0106***	***<0.00243***	***<0.0009***	***0.038***	***<0.00241***
Benzo(b)Fluoranthene	0.000092	***<0.0107***	***0.00884 J***	***<0.00256***	***0.00136 J***	***0.0292***	***<0.00254***
Benzo(k)Fluoranthene	0.00092	***<0.0107***	***0.00377 J***	***<0.00302***	***0.00411 J***	***0.0114***	***<0.003***
Benzo(a)Pyrene	0.0002	***<0.0107***	***0.00429 J***	***<0.00273***	***<0.00101***	***0.015***	***<0.00271***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0107***	<0.00118	<0.00318	<0.00118	<0.00116	<0.00315
Carbazole	0.034	***0.496***	***0.361***	***0.717***	***0.538***	***0.23***	***<0.00344***
Chrysene	0.0092	***<0.0107***	0.00774 J	<0.00235	<0.00096	0.0396	<0.00233
Dibenz(a,h)anthracene	0.0000092	***<0.0107***	***0.00087 J***	***<0.00147***	***<0.00069***	***0.0027 J***	***0.00168 J***
Dibenzofuran	0.0012	***0.0978***	***0.184***	***0.0977***	***0.0993***	***0.11***	***0.135***
Di-n-octyl phthalate	0.006	***<0.0107***	<0.0014	<0.00353	<0.0014	<0.00138	<0.00351
Fluoranthene	1.5	0.0239	0.0485	0.0225	0.046	0.27	0.0279
Fluorene	1.5	0.227	0.191	0.103	0.13	0.155	0.145
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0107***	***0.00163 J***	***<0.00259***	***<0.00092***	***0.00734 J***	***<0.00257***
2-Methylnaphthylene	0.00626	***0.53***	***0.357***	***0.598***	***0.53***	***0.236***	***0.411***
Naphthalene	0.00062	***9.55***	***3.38***	***10.3***	***6.5***	***4.98***	***9.62***
Phenanthrene	1.5	0.103	0.19	0.105	0.1	0.273	0.14
Pyrene	1.1	0.0124	0.0444	0.0149	0.017	0.129	0.0114
TOTAL		**11.4382**	**5.10964**	**12.4869**	**8.23354**	**6.77056**	**10.93658**

Notes:
J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).
Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RC-1A
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/21/2021	3/23/2022	9/20/2022	3/20/2023	9/27/2023
pH (pH units)	--	6.63	6.28	6.27	6.61	6.34	6.28
Specific Conductance (µs/cm)	--	698	701	671	731	746	784
Ammonia (N) (mg/L)	--	1.29	1.34	1.42	1.23	1.37	1.48
Nitrate (N) (mg/L)	--	1.53	1.26	7.44	<0.5	<0.5	<0.5
Chloride (mg/L)	--	135	143	136	129	133	132
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	***0.00576***	***0.00592***	***0.00641***	***0.00615***	***0.00677***
Ethylbenzene	0.7	0.0232	0.0269	0.0282	0.0326	0.0287	0.0317
TOTAL		**0.0232**	**0.03266**	**0.03412**	**0.03901**	**0.03485**	**0.03847**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0105	0.00627 J	<0.0013	0.00679 J	<0.00872	<0.0129
p-Chloro-m-cresol	0.0141	<0.0105	0.00707 J	<0.00245	0.00796 J	<0.0108	<0.0243
o-Cresol	18	<0.0105	0.00225 J	<0.00184	0.00295 J	<0.00091	<0.00183
m,p-Cresol	0.18	<0.0105	<0.0009	<0.00179	0.00288 J	<0.0009	<0.00177
2,4,6-Trichlorophenol	0.002	***<0.0105***	***<0.00266***	***<0.00203***	***<0.0027***	***<0.00267***	<0.00201
2,4-Dinitrophenol	0.073	<0.0105	0.00752 J	<0.00271	<0.00319	<0.00316	<0.00269
Pentachlorophenol	0.001	***<0.0105***	***<0.0028***	***<0.00308***	***0.00614 J***	***<0.00282***	***<0.00306***
TOTAL		**0.0000**	**0.02311**	**0.0000**	**0.02672**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.262	0.327	0.452	<0.00118	0.201	0.379
Acenaphthylene	0.0939	<0.0105	<0.0011	<0.00228	0.00173 J	<0.00111	<0.00226
Anthracene	11	<0.0105	0.00271 J	<0.00228	0.00508 J	<0.00102	0.00722 J
Benzo(a)Anthracene	0.000092	***<0.0105***	***<0.0009***	***<0.00242***	***<0.00091***	***<0.0009***	***<0.0024***
Benzo(b)Fluoranthene	0.000092	***<0.0105***	***<0.00106***	***<0.00254***	***<0.00108***	***<0.00107***	***<0.00252***
Benzo(k)Fluoranthene	0.00092	***<0.0105***	***<0.00104***	***<0.00301***	***0.00172 J***	***<0.00105***	***<0.00298***
Benzo(a)Pyrene	0.0002	***<0.0105***	***<0.00101***	***<0.00271***	***<0.00102***	***<0.00101***	***<0.00269***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0105***	<0.00118	<0.00316	<0.00119	<0.00118	<0.00314
Carbazole	0.034	***0.477***	***0.421***	***0.863***	***0.887***	***0.426***	<0.00343
Chrysene	0.0092	***<0.0105***	<0.00095	<0.00234	<0.00097	<0.00096	<0.00232
Dibenz(a,h)anthracene	0.0000092	***<0.0105***	***<0.00069***	***<0.00146***	***<0.0007***	***<0.00069***	***<0.00145***
Dibenzofuran	0.0012	***0.0781***	***0.164***	***0.0805***	***0.0963***	***0.0734***	***0.132***
Di-n-octyl phthalate	0.006	***<0.0105***	<0.00139	<0.00352	<0.00141	<0.0014	<0.00349
Fluoranthene	1.5	<0.0105	<0.00096	<0.00208	<0.00098	<0.00097	0.00488 J
Fluorene	1.5	0.0922	0.166	0.0804	0.102	0.0957	0.138
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0105***	***<0.00091***	***<0.00257***	***<0.00093***	***<0.00092***	***<0.00255***
2-Methylnaphthylene	0.00626	***0.026***	***0.082***	***0.064***	***0.0957***	***0.0312 J***	***0.0909 J***
Naphthalene	0.00062	***0.922***	***0.856***	***3.72***	***1.88***	***1.69***	***3.74***
Phenanthrene	1.5	0.0504	0.105	0.0581	0.0662	0.0474	0.103
Pyrene	1.1	<0.0105	<0.00112	<0.00303	0.00138 J	<0.00113	<0.00301
TOTAL		**1.9077**	**2.12371**	**5.318**	**3.13711**	**2.5647**	**4.595**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RC-2
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/22/2021	3/29/2022	9/21/2022	3/23/2023	10/5/2023
pH (pH units)	--	6.42	7.03	6.42	6.85	6.70	6.64
Specific Conductance (µs/cm)	--	876	297	861	956	959	570
Ammonia (N) (mg/L)	--	5.79	2.23	5.7	4.91	5.87	3.6
Nitrate (N) (mg/L)	--	1.71	2.36	6.17	0.83	0.924	0.679
Chloride (mg/L)	--	167	30.6	169	104	105	56.1
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.00337	0.00118	<0.005	0.00104	0.0012	0.00154
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0103	<0.00086	<0.00086	<0.00088	<0.00089	<0.00129
p-Chloro-m-cresol	0.0141	<0.0103	<0.00107	<0.00106	<0.00108	<0.00109	<0.00242
o-Cresol	18	<0.0103	<0.0009	<0.0009	<0.00092	<0.00093	<0.00182
m,p-Cresol	0.18	<0.0103	<0.00089	<0.00089	<0.00091	<0.00092	<0.00177
2,4,6-Trichlorophenol	0.002	***<0.0103***	***<0.00265***	***<0.00263***	***<0.00269***	***<0.00272***	<0.002
2,4-Dinitrophenol	0.073	<0.0103	<0.00313	<0.00311	0.00816 J	<0.00321	<0.00267
Pentachlorophenol	0.001	***<0.0103***	***<0.00279***	***<0.00278***	***0.0061 J***	***<0.00286***	***<0.00304***
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0143**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.0307	<0.00116	0.0197	<0.00118	0.105	0.0486
Acenaphthylene	0.0939	<0.0103	<0.0011	<0.00109	<0.00111	<0.00113	<0.00224
Anthracene	11	<0.0103	<0.00101	<0.00101	0.00274 J	0.00445 J	<0.00224
Benzo(a)Anthracene	0.000092	***<0.0103***	***<0.00089***	***0.00363 J***	***<0.00091***	***<0.00092***	***<0.00239***
Benzo(b)Fluoranthene	0.000092	***<0.0103***	***<0.00106***	***0.00457 J***	***<0.00107***	***<0.00108***	***<0.00251***
Benzo(k)Fluoranthene	0.00092	***<0.0103***	***<0.00104***	***0.00382 J***	***0.0021 J***	***<0.00106***	***<0.00297***
Benzo(a)Pyrene	0.0002	***<0.0103***	***<0.001***	***0.00424 J***	***<0.00102***	***<0.00103***	***<0.00268***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0103***	<0.00117	0.00254 J	<0.00119	<0.0012	<0.00312
Carbazole	0.034	<0.0103	<0.00092	<0.00092	<0.00093	<0.00094	<0.00341
Chrysene	0.0092	***<0.0103***	<0.00095	0.00344 J	<0.00096	<0.00097	***<0.00231***
Dibenz(a,h)anthracene	0.0000092	***<0.0103***	***<0.00069***	***0.00339 J***	***<0.0007***	***<0.0007***	***<0.00144***
Dibenzofuran	0.0012	***<0.0103***	<0.00107	<0.00106	<0.00108	<0.00109	***<0.00211***
Di-n-octyl phthalate	0.006	***<0.0103***	<0.00138	0.00214 J	<0.00141	<0.00142	<0.00347
Fluoranthene	1.5	<0.0103	<0.00096	0.00148 J	<0.00097	<0.00098	<0.00205
Fluorene	1.5	<0.0103	<0.00104	0.00409 J	<0.00105	0.0753	0.0186
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0103***	***<0.00091***	***0.00401 J***	***<0.00092***	***<0.00093***	***<0.00254***
2-Methylnaphthylene	0.00626	***<0.0103***	<0.00115	<0.00114	<0.00117	<0.00118	<0.00215
Naphthalene	0.00062	***<0.0103***	***<0.00112***	***0.00327 J***	***<0.00114***	***0.00654 J***	***<0.00199***
Phenanthrene	1.5	<0.0103	<0.00095	0.0016 J	0.0577	0.0505	0.00299 J
Pyrene	1.1	<0.0103	<0.00112	0.00163 J	<0.00114	<0.00115	<0.00299
TOTAL		**0.0307**	**0.0000**	**0.06355**	**0.06254**	**0.24179**	**0.07019**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RC-2A
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/10/2021	9/22/2021	4/5/2022	9/19/2022	3/23/2023	9/28/2023
pH (pH units)	--	6.19	6.07	6.44	6.62	6.3	6.07
Specific Conductance (µs/cm)	--	372	38	358	373	369	295
Ammonia (N) (mg/L)	--	0.65	0.63	0.61	0.65	0.6	0.57
Nitrate (N) (mg/L)	--	<0.5	<2	<10	<0.5	<0.5	<0.5
Chloride (mg/L)	--	61	67.2	59.8	54	53.3	46
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	0.00576	0.00871	0.0102	0.0102	0.00867
TOTAL		**0.000**	**0.00576**	**0.00871**	**0.0102**	**0.0102**	**0.00867**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0102	<0.00086	<0.00085	<0.00089	0.00255 J	<0.00133
p-Chloro-m-cresol	0.0141	<0.0102	<0.00107	<0.00106	<0.0011	0.00112 J	<0.00249
o-Cresol	18	<0.0102	<0.0009	<0.00089	<0.00093	0.00145 J	<0.00187
m,p-Cresol	0.18	<0.0102	<0.00089	<0.00089	<0.00092	0.00381 J	<0.00182
2,4,6-Trichlorophenol	0.002	***<0.0102***	***<0.00265***	***<0.00262***	***<0.00273***	***<0.00272***	<0.00206
2,4-Dinitrophenol	0.073	<0.0102	<0.00313	<0.0031	0.00911 J	<0.00321	<0.00276
Pentachlorophenol	0.001	***<0.0102***	***<0.00279***	***<0.00276***	***0.00619 J***	***<0.00286***	***<0.00314***
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0153**	**0.00893**	**0.0000**
BASE/NEUTRAL (mg/L)							
Acenaphthene	2.2	0.308	0.287	0.344	0.148	0.106	0.361
Acenaphthylene	0.0939	<0.0102	<0.0011	0.00301 J	<0.00113	0.0146	<0.00232
Anthracene	11	<0.0102	<0.00101	0.0112	0.0091 J	0.0014 J	0.0153
Benzo(a)Anthracene	0.000092	***<0.0102***	***<0.00089***	***<0.00088***	***<0.00092***	***<0.00092***	***<0.00246***
Benzo(b)Fluoranthene	0.000092	***<0.0102***	***<0.00106***	***<0.00105***	***<0.00109***	***<0.00108***	***<0.00259***
Benzo(k)Fluoranthene	0.00092	***<0.0102***	***<0.00104***	***<0.00103***	***0.00164 J***	***<0.00106***	***<0.00306***
Benzo(a)Pyrene	0.0002	***<0.0102***	***<0.001***	***<0.00099***	***<0.00103***	***<0.00103***	***<0.00276***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0102***	<0.00117	<0.00116	<0.00121	<0.0012	<0.00322
Carbazole	0.034	***0.39***	***0.244***	***0.548***	***0.522***	***0.00438 J***	***0.794***
Chrysene	0.0092	***<0.0102***	<0.00095	<0.00094	<0.00098	<0.00097	<0.00238
Dibenz(a,h)anthracene	0.0000092	***<0.0102***	***<0.00069***	***<0.00068***	***<0.00071***	***<0.0007***	***0.00179 J***
Dibenzofuran	0.0012	***0.0887***	***0.108***	***0.104***	***0.0498***	***0.0149***	***0.108***
Di-n-octyl phthalate	0.006	***<0.0102***	<0.00138	<0.00137	<0.00143	<0.00142	<0.00358
Fluoranthene	1.5	<0.0102	0.00847	0.0138	0.00824 J	0.01 J	0.0177
Fluorene	1.5	0.16	0.13	0.18	0.0768	0.0176	0.135
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0102***	***<0.00091***	***<0.0009***	***<0.00094***	***<0.00093***	***<0.00262***
2-Methylnaphthylene	0.00626	***<0.0102***	<0.00115	0.00533 J	0.00498 J	0.0107	0.0114
Naphthalene	0.00062	***0.366***	***0.239***	***0.515***	***0.65***	***0.0723***	***0.453***
Phenanthrene	1.5	0.0849	0.054	0.107	0.0824	0.00409 J	0.119
Pyrene	1.1	<0.0102	<0.00112	0.00541 J	0.00419 J	0.00433 J	0.00527 J
TOTAL		**1.3976**	**1.07047**	**1.83675**	**1.55715**	**0.2603**	**2.02146**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RC-3
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	8/12/2020	3/10/2021	9/22/2021	3/29/2022	9/21/2022	10/5/2023
pH (pH units)	--	6.22	6.47	6.33	6.55	6.33	7.15
Specific Conductance (µs/cm)	--	280	583	405	962	1190	2750
Ammonia (N) (mg/L)	--	9.94	3.28	3.07	9.77	11.6	14.5
Nitrate (N) (mg/L)	--	<0.5	<2.5	<0.5	5.25	2.53	3.22
Chloride (mg/L)	--	341	97.3	84.5	197	266	607
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	0.00162	<0.001	<0.001	<0.001	<0.001	0.00136
Lead (mg/L)	0.015	<0.001	0.00186	<0.001	<0.001	0.00148	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	***0.0382***	***0.0158***	***0.0403***	***0.0183***	***0.0193***	***0.0231***
Ethylbenzene	0.7	0.0417	0.0488	0.0243	0.0425	0.0503	0.0196
TOTAL		**0.0799**	**0.0646**	**0.0646**	**0.0608**	**0.0696**	**0.0427**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.108	<0.103	0.0246	0.0342	0.0287 J	0.0269
p-Chloro-m-cresol	0.0141	<0.108	***<0.103***	0.00174 J	<0.00113	<0.0125	<0.00244
o-Cresol	18	0.164	<0.103	0.0923	0.128	0.116 J	0.0314
m,p-Cresol	0.18	0.163	<0.103	0.143	0.0394	0.0289 J	0.0251
2,4,6-Trichlorophenol	0.002	***<0.108***	***<0.103***	***<0.00262***	***<0.0028***	***<0.0311***	<0.00202
2,4-Dinitrophenol	0.073	***<0.108***	<0.103	<0.0031	<0.00332	0.0969 J	<0.0027
Pentachlorophenol	0.001	***<0.108***	***<0.103***	***<0.0276***	***<0.0296***	***0.0713 J***	***<0.00307***
TOTAL		**0.327**	**0.000**	**0.26164**	**0.2016**	**0.3418**	**0.0834**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	***3.41***	***4.76***	0.00774 J	***2.62***	***57.2***	0.636
Acenaphthylene	0.0939	***<0.108***	***<0.103***	0.0232	0.0237	***0.216***	0.00846 J
Anthracene	11	0.454	0.564	0.282	0.352	1.03	0.0726
Benzo(a)Anthracene	0.000092	***0.869***	***0.86***	***0.41***	***0.581***	***1.74***	***0.153***
Benzo(b)Fluoranthene	0.000092	***0.617***	***0.587***	***0.283***	***0.347***	***6.66***	***0.12***
Benzo(k)Fluoranthene	0.00092	***0.176***	***0.24***	***0.115***	***0.165***	***3.09***	***0.0426***
Benzo(a)Pyrene	0.0002	***0.342***	***0.353***	***0.148***	***0.237***	***4.29***	***0.069***
Bis(2-ethylhexyl)phthalate	0.006	***<0.108***	***<0.103***	<0.00116	0.00192 J	***<0.0137***	<0.00315
Carbazole	0.034	***1.23***	***0.76***	***0.48***	***0.601***	***6.82***	***0.401***
Chrysene	0.0092	***0.622***	***0.578***	***0.304***	***0.389***	***1.06***	***0.145***
Dibenz(a,h)anthracene	0.0000092	***<0.108***	***<0.0103***	***0.0231***	***0.0308***	***0.311***	***0.01 J***
Dibenzofuran	0.0012	***1.61***	***2.74***	***0.656***	***0.94***	***14.4***	***0.282***
Di-n-octyl phthalate	0.006	***<0.108***	***<0.0103***	<0.00137	0.00164 J	***<0.0163***	<0.00351
Fluoranthene	1.5	***4.02***	***5.52***	0.871	***3.17***	***120***	1.44
Fluorene	1.5	***2.58***	***4.41***	0.873	***2.39***	***65.4***	0.462
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.108***	***<0.0103***	***0.0551***	***0.0779***	***0.806***	***0.0256***
2-Methylnaphthylene	0.00626	***2.32***	***3.39***	***0.634***	***0.726***	***46.6***	***0.312***
Naphthalene	0.00062	***9.7***	***6.47***	***0.978***	***3.26***	***80.1***	***1.38***
Phenanthrene	1.5	***7.86***	***8.61***	1.21	***5.5***	***97***	1.48
Pyrene	1.1	***2.81***	***3.2***	0.75	***3.92***	0.511	0.582
TOTAL		**38.62**	**43.042**	**8.10314**	**25.33396**	**507.234**	**7.62126**

Notes:
J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).
Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RC-3A
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/11/2021	9/22/2021	4/5/2022	9/19/2022	3/23/2023	9/28/2023
pH (pH units)	--	6.05	5.92	6.36	6.52	5.88	5.97
Specific Conductance (µs/cm)	--	475	453	509	486	501	477
Ammonia (N) (mg/L)	--	0.56	0.82	0.7	0.76	0.78	1.05
Nitrate (N) (mg/L)	--	<0.5	<0.5	<5	<0.5	<0.5	<0.5
Chloride (mg/L)	--	88.8	92.6	171	85	86.4	88.3
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0106	0.00231 J	0.00158 J	<0.0009	<0.00086	<0.00131
p-Chloro-m-cresol	0.0141	<0.0106	<0.00108	<0.00114	<0.00111	<0.00106	<0.00247
o-Cresol	18	<0.0106	<0.00091	<0.00096	<0.00094	<0.0009	<0.00185
m,p-Cresol	0.18	<0.0106	<0.0009	<0.00096	<0.00093	<0.00089	<0.0018
2,4,6-Trichlorophenol	0.002	***<0.0106***	***<0.00267***	***<0.00283***	***<0.00276***	***<0.00263***	<0.00204
2,4-Dinitrophenol	0.073	<0.0106	<0.00316	<0.00334	0.00853 J	<0.00311	<0.00273
Pentachlorophenol	0.001	***<0.0106***	***<0.00282***	***<0.00298***	***0.00626 J***	***<0.00278***	***<0.0031***
TOTAL		**0.0000**	**0.00231**	**0.00158**	**0.01479**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.0705	0.0455	0.0296	0.0368	0.0445	0.033
Acenaphthylene	0.0939	<0.0106	<0.00111	<0.00117	<0.00114	<0.00109	<0.00229
Anthracene	11	<0.0106	<0.00102	<0.00108	<0.00106	<0.00101	<0.00229
Benzo(a)Anthracene	0.000092	***<0.0106***	***<0.0009***	***<0.00095***	***<0.00093***	***<0.00089***	***<0.00244***
Benzo(b)Fluoranthene	0.000092	***<0.0106***	***<0.00107***	***<0.00113***	***<0.0011***	***<0.00105***	***<0.00256***
Benzo(k)Fluoranthene	0.00092	***<0.0106***	***<0.00105***	***<0.00111***	***0.0015 J***	***<0.00103***	***<0.00303***
Benzo(a)Pyrene	0.0002	***<0.0106***	***<0.00101***	***<0.00107***	***<0.00104***	***<0.001***	***<0.00273***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0106***	***0.0075 J***	<0.00125	***<0.00122***	<0.00116	<0.00319
Carbazole	0.034	<0.0106	0.0053 J	0.0146	0.00398 J	0.0182	0.00683 J
Chrysene	0.0092	***<0.0106***	<0.00096	<0.00101	<0.00099	<0.00094	<0.00235
Dibenz(a,h)anthracene	0.0000092	***<0.0106***	***<0.00069***	***<0.00073***	***<0.00072***	***<0.00068***	***<0.00147***
Dibenzofuran	0.0012	***<0.0106***	<0.00108	***0.00287 J***	0.00252 J	***0.00515 J***	***<0.00216***
Di-n-octyl phthalate	0.006	***<0.0106***	<0.0014	<0.00148	<0.00144	<0.00138	<0.00354
Fluoranthene	1.5	<0.0106	0.00768 J	0.00316 J	<0.001	0.00461 J	0.00485 J
Fluorene	1.5	0.0472	0.027	0.0156	0.0148	0.0231	0.0177
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0106***	***<0.00092***	***<0.00097***	***<0.00095***	***<0.0009***	***<0.00259***
2-Methylnaphthylene	0.00626	***<0.0106***	<0.00116	0.00237 J	<0.0012	0.00364 J	<0.0022
Naphthalene	0.00062	***<0.0106***	***0.0334***	***0.0533***	***0.00895 J***	***0.056***	***0.00611 J***
Phenanthrene	1.5	<0.0106	<0.00096	0.00154 J	<0.00099	0.00269 J	<0.00254
Pyrene	1.1	<0.0106	0.00353 J	0.00191 J	0.00183 J	0.00208 J	<0.00305
TOTAL		**0.1177**	**0.12991**	**0.12495**	**0.07038**	**0.15997**	**0.06849**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RW-1
AQUIFER = UPPER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/21/2021	3/28/2022	9/19/2022	3/20/2023	10/2/2023
pH (pH units)	--	7.14	6.14	7.09	6.75	7.35	6.45
Specific Conductance (µs/cm)	--	417	104	226	401	249	1170
Ammonia (N) (mg/L)	--	1.87	0.47	1.65	1.91	1.47	7.37
Nitrate (N) (mg/L)	--	<0.5	2.73	<1	3.6	<0.5	<0.5
Chloride (mg/L)	--	36.9	5.3	20.3	32.9	14.4	224
Arsenic (mg/L)	0.01	0.006	0.0021	0.017	0.0026	0.003	<0.002
Chromium (mg/L)	0.1	0.00756	<0.001	0.0232	0.00497	<0.001	<0.001
Lead (mg/L)	0.015	0.0112	0.00568	0.0638	0.00266	0.0133	0.0134
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0104	<0.00019	<0.0002	<0.0002	<0.00109	<0.00109
p-Chloro-m-cresol	0.0141	<0.0104	<0.00028	<0.00028	<0.00028	<0.00171	<0.00172
o-Cresol	18	<0.0104	<0.00042	<0.00043	<0.00043	<0.00128	<0.00129
m,p-Cresol	0.18	<0.0104	<0.00116	<0.00117	<0.00116	<0.00351	<0.00353
2,4,6-Trichlorophenol	0.002	***<0.0104***	<0.00045	<0.00045	<0.00045	<0.00137	<0.00138
2,4-Dinitrophenol	0.073	<0.0104	<0.00132	<0.00133	<0.00133	<0.00448	<0.0045
Pentachlorophenol	0.001	<0.001	<0.00007	<0.00007	<0.00007	<0.00104	<0.00104
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0104	0.00016	0.00398	0.0112	0.00277	0.00823
Acenaphthylene	0.0939	<0.0104	0.00002 J	0.00002 J	<0.00001	0.00007	<0.00006
Anthracene	11	<0.0104	0.00004 J	0.00003 J	<0.00002	0.0002	0.00036
Benzo(a)Anthracene	0.000092	***<0.0104***	***0.00016***	***0.00099***	***0.00109***	***0.00028***	***0.00019***
Benzo(b)Fluoranthene	0.000092	***<0.0104***	***0.0004***	***0.00207***	***0.00204***	***0.00085***	***0.00025***
Benzo(k)Fluoranthene	0.00092	***<0.0104***	0.00017	***0.00104***	0.00006	***0.00178***	0.00009
Benzo(a)Pyrene	0.0002	0.0002	0.0002	***0.0015***	0.00005 J	***0.0005***	0.0001
Bis(2-ethylhexyl)phthalate	0.006	***<0.0104***	<0.00037	<0.00038	<0.00038	<0.00112	<0.00113
Carbazole	0.034	<0.0104	<0.00269	<0.00271	<0.0027	<0.00815	<0.00521
Chrysene	0.0092	***<0.0104***	0.00026	0.00003 J	0.00162	0.00037	0.00027
Dibenz(a,h)anthracene	0.0000092	***<0.0104***	***<0.00004***	***<0.00004***	***0.00007 J***	***<0.00016***	***<0.00016***
Dibenzofuran	0.0012	***<0.0104***	<0.00041	<0.00041	<0.00041	<0.00124	<0.00125
Di-n-octyl phthalate	0.006	***<0.0104***	<0.0003	<0.0003	<0.0003	<0.00176	<0.00177
Fluoranthene	1.5	<0.0104	0.00072	0.00267	0.00627	0.00161	0.00184
Fluorene	1.5	<0.0104	0.00016	0.00036	0.0068	0.00098	0.00414
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0104***	***0.00012 J***	<0.00003	***0.00015 J***	***0.00034***	***<0.00018***
2-Methylnaphthylene	0.00626	***<0.0104***	0.00007	<0.00005	0.0008	0.0001	0.00153
Naphthalene	0.00062	***<0.0104***	0.00044	<0.00002	<0.00002	***0.00173***	***0.00144***
Phenanthrene	1.5	<0.0104	0.00023	0.00038	0.00195	0.00137	0.00099
Pyrene	1.1	<0.0104	0.0005	0.00085	0.00396	0.00161	0.00119
TOTAL		**0.00016**	**0.00365**	**0.01391**	**0.03606**	**0.01451**	**0.02062**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
COMPLIANCE WELL RW-2
AQUIFER = UPPER LOWER
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/9/2021	9/21/2021	3/23/2022	9/19/2022	3/20/2023	10/2/2023
pH (pH units)	--	6.11	6.00	6.00	6.02	6.05	6.00
Specific Conductance (µs/cm)	--	332	364	320	365	268	332
Ammonia (N) (mg/L)	--	0.47	0.61	0.62	0.6	0.52	0.59
Nitrate (N) (mg/L)	--	<0.5	1.3	<1	<0.5	<0.5	<0.5
Chloride (mg/L)	--	44.5	43.2	39	38	39.9	38.2
Arsenic (mg/L)	0.01	0.0037	0.0027	0.0033	0.0026	0.0036	0.00235
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	0.0073	<0.001	0.00305	0.00434	0.00252	0.00124
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.7	<0.005	0.00568	<0.005	0.00514	<0.005	<0.005
TOTAL		**0.000**	**0.00568**	**0.000**	**0.00514**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0103	0.0025	<0.00019	0.00548	<0.00107	0.00343
p-Chloro-m-cresol	0.0141	<0.0103	<0.00029	<0.00028	0.00035 J	<0.00168	<0.0017
o-Cresol	18	<0.0103	<0.00043	<0.00042	0.00069 J	<0.00127	<0.00128
m,p-Cresol	0.18	<0.0103	<0.00118	<0.00115	<0.00131	<0.00346	<0.00349
2,4,6-Trichlorophenol	0.002	***<0.0103***	<0.00046	<0.00045	<0.00051	<0.00135	<0.00136
2,4-Dinitrophenol	0.073	<0.0103	<0.00134	<0.00132	<0.00149	<0.00441	<0.00445
Pentachlorophenol	0.001	<0.001	<0.00007	<0.00006	<0.00007	<0.00102	<0.00103
TOTAL		**0.0000**	**0.0025**	**0.0000**	**0.00652**	**0.0000**	**0.00343**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	0.0853	0.204	0.0158	0.49	0.0949	0.421
Acenaphthylene	0.0939	<0.0103	0.00286	0.00253	0.00489	0.0023	0.00357
Anthracene	11	0.0114	0.0286	0.00074 J	0.0628	0.0286	0.151
Benzo(a)Anthracene	0.000092	***<0.0103***	***0.00888***	***0.00152***	***0.0314***	***0.0438***	***0.0486***
Benzo(b)Fluoranthene	0.000092	***<0.0103***	***0.00612***	***0.00172***	***0.0202***	***0.039***	***0.0241***
Benzo(k)Fluoranthene	0.00092	***<0.0103***	***0.00408***	***0.00117***	***0.00948***	***0.0515***	***0.00925***
Benzo(a)Pyrene	0.0002	0.00049	***0.00184***	***0.00126 J***	***0.00999***	***0.024***	***0.0141***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0103***	<0.00038	<0.00037	<0.00042	<0.0011	<0.00111
Carbazole	0.034	0.0301	***0.0869***	0.00593	***0.108***	0.023	***0.0641***
Chrysene	0.0092	***<0.0103***	0.00755	0.00134	***0.0281***	***0.0431***	***0.0409***
Dibenz(a,h)anthracene	0.0000092	***<0.0103***	***<0.00036***	***0.00081 J***	***0.00091***	***0.00026***	***<0.00184***
Dibenzofuran	0.0012	***0.0501***	***0.161***	***0.00108***	***0.292***	***0.0683***	***0.306***
Di-n-octyl phthalate	0.006	***<0.0103***	<0.0003	0.00046 J	<0.00033	<0.00173	<0.00175
Fluoranthene	1.5	0.0389	0.0612	0.0201	0.399	0.152	0.491
Fluorene	1.5	0.0606	0.0918	0.00141	0.332	0.0944	0.382
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0103***	***0.00041 J***	***0.00062 J***	***0.00229***	***0.00065***	***0.00242***
2-Methylnaphthylene	0.00626	***<0.0103***	***0.153***	0.00006	***0.165***	**0.0495**	***0.0627***
Naphthalene	0.00062	***<0.0103***	***0.643***	<0.00002	***1.22***	***0.197***	***0.253***
Phenanthrene	1.5	0.0882	0.214	0.00108 J	0.732	0.398	0.799
Pyrene	1.1	0.0236	0.0612	0.0144	0.228	0.102	0.27
TOTAL		**0.38869**	**1.73644**	**0.07203**	**4.13606**	**1.41231**	**3.34274**

Notes:

J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).

Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 3
AQUIFER = UPPER LOWER/LOWER
UPGRADIENT WELL UG-2
CAVENHAM FOREST INDUSTRIES LLC
MOBILE, ALABAMA

DATE OF SAMPLING	GW Protection Standard	3/13/2019	9/19/2019	3/11/2020	9/23/2021	4/3/2022	3/21/2023
pH (pH Units)	--	4.50	4.39	3.94	4.46	4.36	4.34
Specific Conductance (µs/cm)	--	206	206	78.1	220	227	179
Ammonia (N) (mg/L)	--	<0.11	<0.21	<0.21	<0.21	<0.21	<0.21
Nitrate (N) (mg/L)	--	1.62	2.76	2.75	1.79	0.896	2.29
Chloride (mg/L)	--	8.42	7.86	7.4	9.05	7.82	5.39
Arsenic (mg/L)	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium (mg/L)	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead (mg/L)	0.015	<0.001	0.00125	0.00129	<0.001	<0.001	<0.001
Nickel (mg/L)	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
VOLATILE ORGANICS (mg/L)							
Benzene	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.70	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TOTAL		**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
PHENOLICS (mg/L)							
2,4-Dimethylphenol	7.3	<0.0107	<0.0103	<0.0106	<0.0002	<0.0002	<0.00107
p-Chloro-m-cresol	0.0141	<0.0107	<0.0103	<0.0106	<0.00028	<0.00029	<0.00168
o-Cresol	18	<0.0107	<0.0103	<0.0106	<0.00043	<0.00044	<0.00127
m,p-Cresol	0.18	<0.0107	<0.0103	<0.0106	<0.00117	<0.0012	<0.00346
2,4,6-Trichlorophenol	0.002	***<0.0107***	***<0.0103***	***<0.0106***	<0.00046	<0.00047	<0.00135
2,4-Dinitrophenol	0.073	<0.0107	<0.0103	<0.0106	<0.00134	<0.00137	<0.00441
Pentachlorophenol	0.001	0.00141	<0.001	<0.001	<0.00007	<0.00007	<0.00102
TOTAL		**0.0014**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BASE/NEUTRALS (mg/L)							
Acenaphthene	2.2	<0.0107	<0.0103	<0.0106	0.00008	0.00004 J	0.00005
Acenaphthylene	0.0939	<0.0107	<0.0103	<0.0106	<0.00001	<0.00001	<0.00006
Anthracene	11	<0.0107	<0.0103	<0.0106	<0.00002	0.00004 J	<0.00006
Benzo(a)anthracene	0.000092	***<0.0107***	***<0.0103***	***<0.0106***	<0.00003	<0.00003	<0.00006
Benzo(b)fluoranthene	0.000092	***<0.0107***	***<0.0103***	***<0.0106***	<0.00003	<0.00003	***0.00034***
Benzo(k)fluoranthene	0.00092	***<0.0107***	***<0.0103***	***<0.0106***	<0.00003	<0.00003	0.00024
Benzo(a)pyrene	0.0002	<0.00006	<0.00006	<0.00006	<0.00002	<0.00002	***0.00029***
Bis(2-ethylhexyl)phthalate	0.006	***<0.0107***	***<0.0103***	***<0.0106***	<0.00038	<0.00039	<0.0011
Carbazole	0.034	<0.0107	<0.0103	<0.0106	<0.00272	<0.00279	<0.00802
Chrysene	0.0092	***<0.0107***	***<0.0103***	***<0.0106***	<0.00003	0.00003 J	<0.00005
Dibenz(a,h)anthracene	0.0000092	***<0.0107***	***<0.0103***	***<0.0106***	***<0.00004***	***<0.00004***	***<0.00016***
Dibenzofuran	0.0012	***<0.0107***	***<0.0103***	***<0.0106***	<0.00041	<0.00042	<0.00122
Di-n-octyl phthalate	0.006	***<0.0107***	***<0.0103***	***<0.0106***	<0.0003	<0.00031	<0.00173
Fluoranthene	1.5	<0.0107	<0.0103	<0.0106	0.00004 J	0.00011	0.0001
Fluorene	1.5	<0.0107	<0.0103	<0.0106	0.00004 J	0.00005 J	<0.00012
Indeno(1,2,3-c,d) pyrene	0.000092	***<0.0107***	***<0.0103***	***<0.0106***	<0.00003	<0.00003	***0.00026***
2-Methylnaphthylene	0.00626	***<0.0107***	***<0.0103***	***<0.0106***	0.0001	0.00005	0.00005
Naphthalene	0.00062	***<0.0107***	***<0.0103***	***<0.0106***	0.0002	0.00013	0.00016
Phenanthrene	1.5	<0.0107	<0.0103	<0.0106	0.00007	0.00017	0.00024
Pyrene	1.1	<0.0107	<0.0103	<0.0106	0.00003 J	0.00009	0.00006
TOTAL		**0.0000**	**0.0000**	**0.0000**	**0.00056**	**0.00071**	**0.00179**

Notes:
J - Detected above the MDL but below the MRL; therefore, result is an estimated concentration (CLP J-Flag).
Concentrations in ***Bold italics*** indicate an exceedance of the respective Groundwater Protection Standard (GWPS) or that the laboratory reporting limit exceeds the GWPS.

TABLE 4
TOTAL DEPTH OF WELLS
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

Well Designation	Ground Elevation (ft-msl)	Top of Casing (ft-msl)	Total Depth (ft-bls)	Total Depth Elevation (ft-bls)	Screened Interval Elevation (ft-msl)	Aquifer	Use	Measured Depth (ft below TOC) 12/18/2023	Measured Elevation 12/18/2023	Difference in Depth Total Depth - Measured Depth 12/18/2023
A-1	14.10	15.16	30	-15.90	-4.4 to -14.4	UA	R/I	32.62	-17.46	-2.62
A-2	15.90	16.98	36	-20.10	0 to -20	UA	R/I	36.23	-19.25	-0.23
A-3	16.20	16.05	36	-19.80	0.2 to -19.8	UA	R/I	36.35	-20.3	-0.35
A-4	14.20	14.29	30	-15.80	-4.3 to -14.3	UA	R/I	31.1	-16.81	-1.1
A-5	16.60	16.89	34	-17.40	+4.6 to -15.4	UA	R/I	34.64	-17.75	-0.64
A-6	13.90	15.21	27	-13.10	-1.6 to -11.6	UA	R/I	28.97	-13.76	-1.97
B-101	2.40	4.84	46.5	-44.10	-39.1 to -44.1	UL	B	48.68	-43.84	-2.18
B-102	5.40	8.46	42	-36.60	-26.1 to -36.1	UL	P	43.9	-35.44	-1.9
B-103	3.30	6.39	42.5	-39.20	-29.2 to -39.2	UL	P	44.83	-38.44	-2.33
B-104	3.30	6.26	17	-13.70	-3.7 to -13.7	UA	P	19.87	-13.61	-2.87
B-108A	3.30	5.45	27	-23.70	-18.7 to -23.7	UA	B	28.99	-23.54	-1.99
B-110	4.60	7.34	22.5	-17.90	-7.9 to -17.9	UA	P	24.89	-17.55	-2.39
B-111	4.60	6.98	30.5	-25.90	-15.9 to -25.9	UL	P	33.36	-26.38	-2.86
B-114	6.90	9.47	37.5	-30.60	-20.6 to -30.6	UL	P	39.91	-30.44	-2.41
B-116	3.30	5.15	42	-38.70	-25.7 to -35.7	UL	P	42	-36.85	0
B-128	3.48	5.52	24	-20.52	-9.5 to -19.5	UA	B	24.82	-19.3	-0.82
B-139	0.00	9.74	30.5	-30.50	-13.3 to -23.3	UA	P	32.94	-23.2	-2.44
B-140	3.54	6.02	25.5	-21.96	-12 to -22	UA	P	28.53	-22.51	-3.03
B-24	4.90	6.3	97	-92.10	-77.8 to -92.8	LL	B	97.09	-90.79	-0.09
B-25	5.00	7.44	109	-104.00	-88.9 to -103.9	LL	B	109.03	-101.59	-0.03
B-26	2.70	4.86	85	-82.30	-62.2 to -82.2	IL	P	86.9	-82.04	-1.9
B-27	4.80	6.72	90	-85.20	-60.3 to -80.3	LL	P	92.76	-86.04	-2.76
B-29	3.90	4.53	46	-42.10	-33.3 to -43.3	UL	P	49.1	-44.57	-3.1
B-36	2.70	6.71	40	-37.30	-24.9 to -34.9	UL	B	41.79	-35.08	-1.79
B-37	6.00	7.02	45	-39.00	-30.1 to -40.1	UL	P	46.69	-39.67	-1.69
B-48A	3.85	4.9	44.5	-40.65	-34.6 to -39.6	UL	I	---	---	---
B-59A	6.50	7.77	120.5	-114.00	-97.5 to -112.5	LL	P	120.01	-112.24	0.49
B-60A	4.30	6.22	85.5	-81.20	-64.7 to 79.7	LL	B	85.5	-79.28	0
B-61	3.70	6.1	85	-81.30	-65.6 to -80.6	LL	P	86.52	-80.42	-1.52
B-64A	4.23	5.77	60.5	-56.27	-39.8 to -54.8	IL	P	62.13	-56.36	-1.63
B-65	3.70	6.22	60	-56.30	-40.4 to -55.4	IL	B	61.8	-55.58	-1.8
B-94	5.10	8.08	22.5	-17.40	-7.4 to -17.4	UA	P	24.89	-16.81	-2.39
B-97	3.50	6.24	27.5	-24.00	-14 to -24	UA	B	30.01	-23.77	-2.51
DG-1A	4.60	7.26	40	-35.40	-30.4 to -35.4	UL	P	42.2	-34.94	-2.2
E-1	14.17	16.38	30	-15.83	-5.2 to -15.2	UA	E/R	31.72	-15.34	-1.72
E-2	3.40	9.28	25.5	-22.10	-15.6 to -20.6	UA	B	30.77	-21.49	-5.27
GC SUMP	---	12.76	N/A	---	NA	UA	R	18.68	-5.92	---
I-1	8.80	9.74	31	-22.20	-11.5 to -21.5	UA	I	ND	---	---
I-2(A)	9.21	11.01	80.7	-71.49	-40.0 to -69.0	UL	I	ND	---	---
I-3	9.03	9.98	64.8	-55.77	-26.5 to -56.5	UL	I	ND	---	---
RC-1	8.84	12	31	-22.16	-10.9 to -20.9	UA	C	33.98	-21.98	-2.98
RC-1A	9.00	11.86	51	-42.00	-30.8 to -40.8	UL	C	52.78	-40.92	-1.78

TABLE 4
TOTAL DEPTH OF WELLS
CAVENHAM FOREST INDUSTRIES LLC.
MOBILE, ALABAMA

RC-2	10.30	12.27	27	-16.70	-5.2 to -15.2	UA	C/R	28.91	-16.64	-1.91
RC-2A	10.35	13.43	48.5	-38.15	-26.7 to -36.7	UL	C	51.21	-37.78	-2.71
RC-3	7.66	9.93	26	-18.34	-11.7 to -16.7	UA	C/R	28.68	-18.75	-2.68
RC-3A	7.81	10.31	46.5	-38.69	-27.1 to -37.1	UL	C	47.54	-37.23	-1.04
RW-1	11.50	12.78	26	-14.50	+6.5 to -13.5	UA	C/R	25.19	-12.41	0.81
RW-10	***3.41***	***5.19***	***44.5***	***-41.09***	***-29.6 to -39.6***	***UL***	***R***	***37.80***	***-32.61***	***6.7***
RW-11	4.19	4.9	19	-14.81	0 to -15	UA	R	20.33	-15.43	-1.33
RW-12	4.75	5.4	19	-14.25	0.5 to -14.5	UA	R	19.01	-13.61	-0.01
RW-13	3.43	4.18	19	-15.57	-0.6 to -15.6	UA	R	21.09	-16.91	-2.09
RW-2	11.50	13.25	58.5	-47.00	-25.5 to -45.5	UL	C/R	58.5	-45.25	0
RW-35	5.19	9.05	51.5	-46.31	-30.5 to -45.5	UL	R	51.50	-42.45	0
RW-36	4.90	8.67	51.5	-46.60	-30.75 to -45.75	UL	R	51.50	-42.83	0
RW-37	4.84	8.07	51.5	-46.66	-30.58 to -45.58	UL	R	51.50	-43.43	0
RW-3A	11.13	15.54	60	-48.87	-23.4 to -43.4	UL	E	60.02	-44.48	-0.02
RW-3B	15.10	14.92	111.5	-96.40	-74.9 to -94.9	LL	B	112	-97.08	-0.5
RW-4	18.71	20.07	65	-46.29	-25.2 to -45.2	UL	E	65.94	-45.87	-0.94
RW-5	15.00	16.17	65	-50.00	-28.5 to -48.5	UL	E	64.59	-48.42	0.41
RW-6	8.58	10.67	27	-18.42	-5.9 to -15.9	UA	R	29.10	-18.43	-2.1
RW-7	6.51	8.41	30	-23.49	-12.0 to -22.0	UL / UA	R	31.51	-23.1	-1.51
RW-8	2.37	4.57	44.5	-42.13	-30.6 to -40.6	UL	R	44.52	-39.95	-0.02
RW-8A	2.76	4.89	44	-41.24	-30.0 to 40.0	UL	B	44.24	-39.35	-0.24
RW-9	2.49	4.27	41	-38.51	-27 to -37	UL	R	42.79	-38.52	-1.79
T-1	8.16	9.71	7 to 10	---	-2 to 0	UA	E/R	11.18	-1.47	---
T-2	4.72	6.44	7 to 10	---	-3.5 to 1.6	UA	E/R	12.69	-6.25	---
UG-1	5.80	7.59	28.8	-23.00	-18 to -23	UL/UA	X	30.95	-23.36	-2.15
UG-2	6.80	8.3	21.2	-14.40	-9.4 to -14.4	UL/UA	P	22.96	-14.66	-1.76

UA - Upper Aquifer
UL - Upper portion of Lower Aquifer
IL - Intermediate portion of Lower Aquifer
LL - Lower portion of Lower Aquifer
ft-mls - Elevation in feet relative to mean sea level
SS - Stainless Steel
PVC - Polyvinylchloride
HDPE - High Density Polyethylene

USE:
U - Upgradient
C - Compliance
E - Effectiveness
B - Boundary
R - Recovery
I - Injection
P - Piezometer

RW-18 - formerly AS/RW-10
RW-19 - formerly AS/RW-8
RW-20 - formerly AS/RW-9

AS-8 - formerly RW/AS-20
AS-9 - formerly RW/AS - 22
AS-10 - formerly RW/AS-26

FIGURES

1000500 0 1000 2000 3000 4000

Scale (Feet)

N

REFERENCE: U.S.G.S. TOPOGRAPHIC MAP
7.5 MINUTE SERIES
MOBILE, ALABAMA

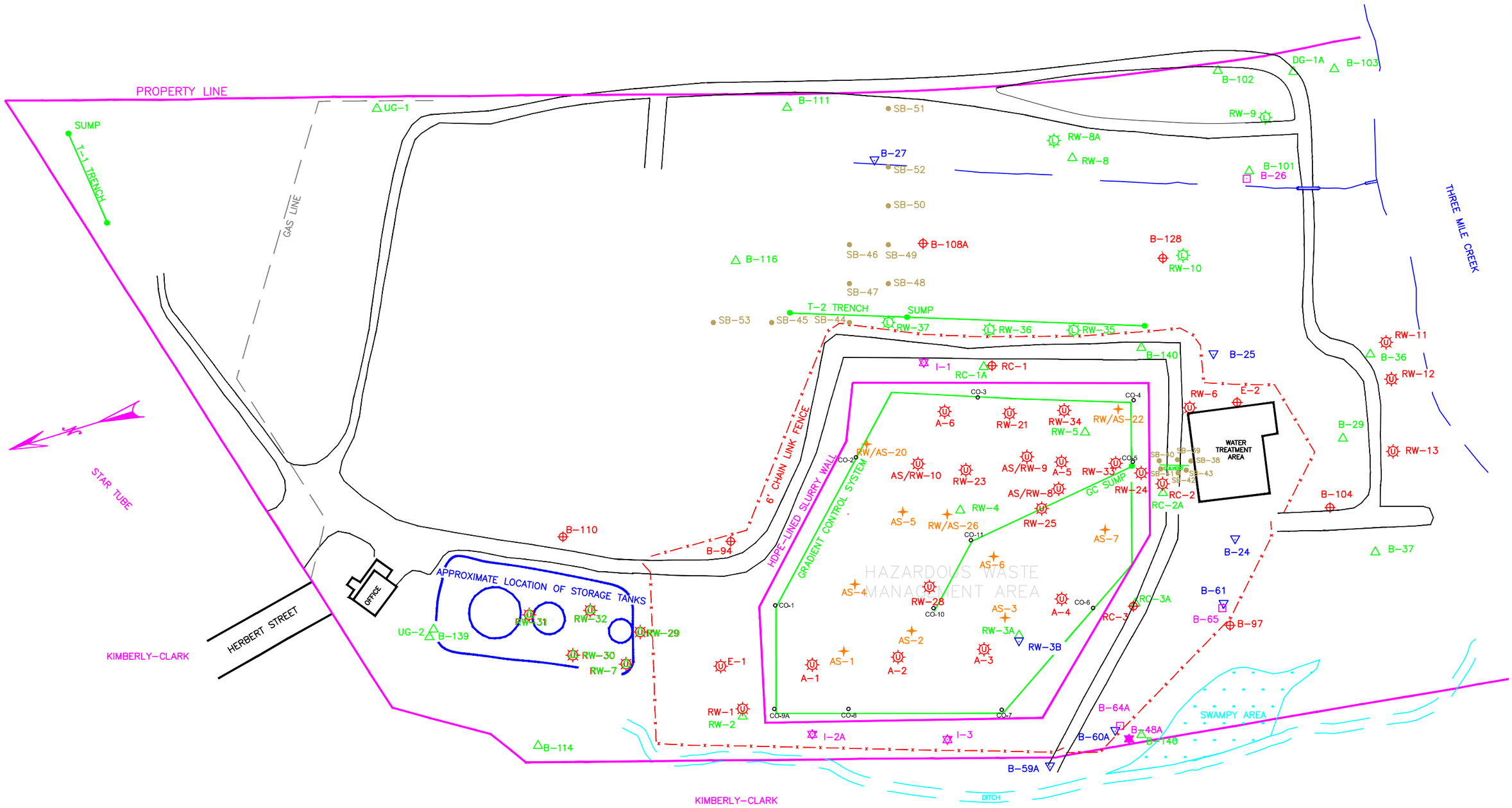
SITE LOCATION

CAVENHAM FOREST INDUSTRIES, LLC. – MOBILE, ALABAMA

DATE: 6/10/02	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. SITE LOC MAP

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 1



LEGEND

- UPPER AQUIFER MONITOR WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- SOIL BORING
- UPPER AQUIFER RECOVERY WELL
- UPPER AQUIFER INJECTION WELL
- LOWER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- AIR SPARGING WELLS

SCALE: 1" = 125'

125 62.5 0 62.5 125

WELL LOCATION MAP

CAVENHAM FOREST INDUSTRIES, LLC. – MOBILE, AL

DATE: 7/18/02	APPROVED: BY: _____ DATE: _____	DRAWN BY: KRK
SCALE: 1" = 125'		CAD NO. WELL LOCATION MAP

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 2

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\CAP Addendum 2024\Figures\3_MobPot Upper_0923.dwg Sheet No: UPPER Saved: - Friday, March 22, 2024 10:04 AM Printed: March 22, 2024

PROPERTY LINE

SUMP 4.91

T-1 TRENCH

4.0

3.0

GAS LINE

UG-1 2.94

B-111

B-102

DG-1A

B-103

RW-9

RW-8A

RW-8

B-27

B-26

B-101

STAFF GAUGE ND

THREE MILE CREEK

B-108A 2.40

B-116

B-128 1.95

RW-10

2.0

1.0

T-2 TRENCH

SUMP 0.80

RW-37

RW-36

RW-35

RW-11 2.18

B-36

B-25

I-1

3

RC-1 3.03

RW-12 2.18

RW-6 1.52

E-2 1.71

A-6 2.95

RW-5

B-29

A-5 1.71

RW-13 1.66

6' CHAIN LINK FENCE

HDPE-LINED SLURRY WALL

GRADIENT CONTROL SYSTEM

GC SUMP 0.65

WATER TREATMENT AREA

RC-2 1.53

RC-2A

B-104 1.43

RW-4

B-24

B-37

STAR TUBE

B-110 3.09

B-94 3.02

HAZARDOUS WASTE MANAGEMENT AREA

2.0

3.0

A-4 5.17

RC-3A

RC-3 2.21

B-61

B-65

B-97 3.08

OFFICE

APPROXIMATE LOCATION OF STORAGE TANKS

HERBERT STREET

UG-2 3.02

B-139

RW-3A

RW-3B

A-3 5.34

KIMBERLY-CLARK

RW-7 3.07

E-1 3.05

A-1 6.58

A-2 2.73

4

5

RW-1 5.14

RW-2

B-64A

B-140 3.30

SWAMPY AREA

B-60A

B-48A

I-2A

I-3

B-114

B-59A

KIMBERLY-CLARK

DITCH

N

SCALE: 1" = 125'

125 62.5 0 62.5 125

NOTE: POTENTIOMETRIC CONTOURS (FT MSL) ARE BASED ON WATER LEVEL MEASUREMENTS OF SEPTEMBER 2023 DASHED WHERE INFERRED.

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

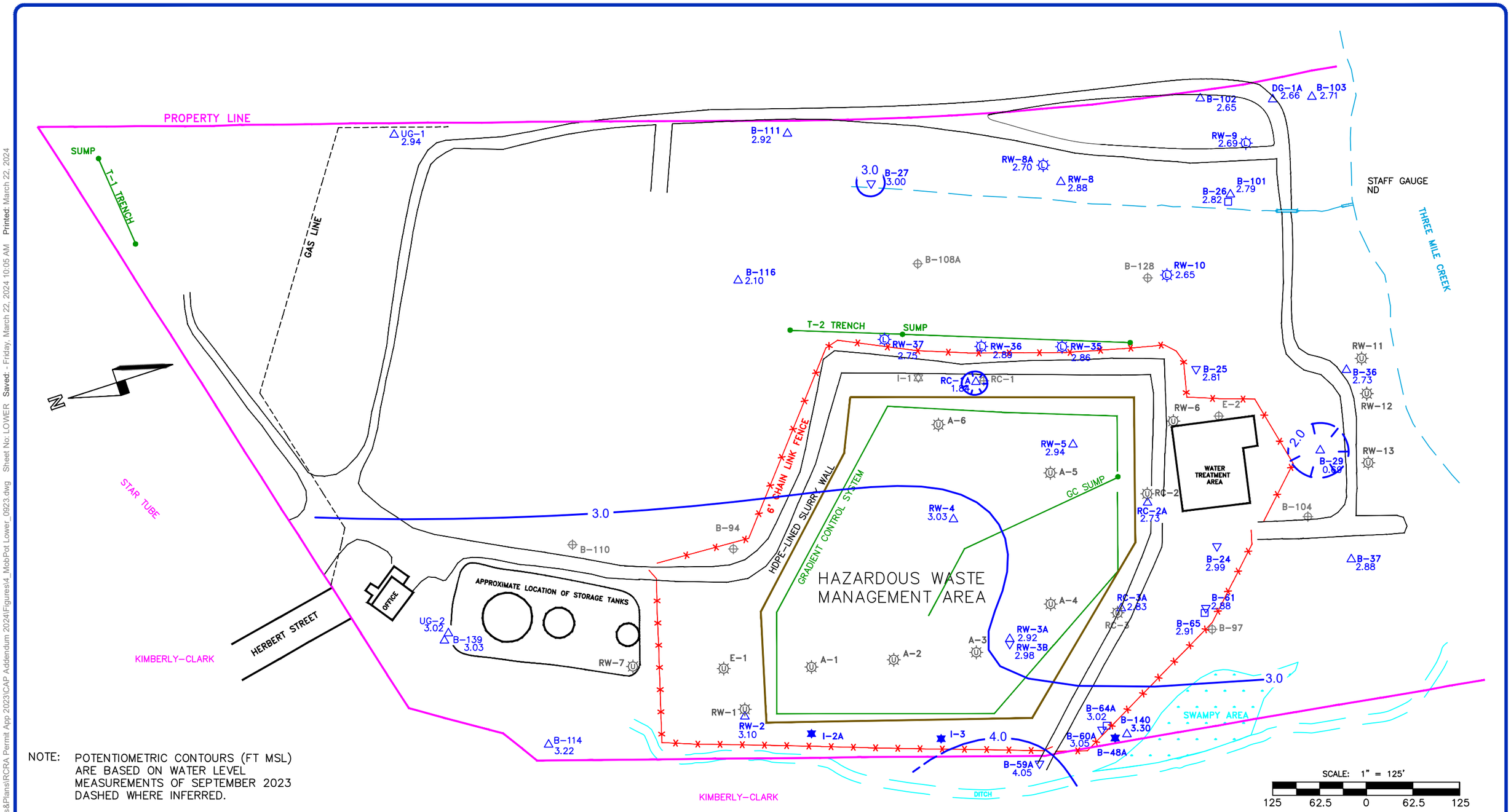
UPPER AQUIFER WATER TABLE CONTOURS

CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

DATE: 01/18/2024	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: 1" = 125'		CAD NO. 3_MobPot Upper-0923

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 3



NOTE: POTENTIOMETRIC CONTOURS (FT MSL) ARE BASED ON WATER LEVEL MEASUREMENTS OF SEPTEMBER 2023 DASHED WHERE INFERRED.

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

LOWER AQUIFER POTENTIOMETRIC CONTOURS

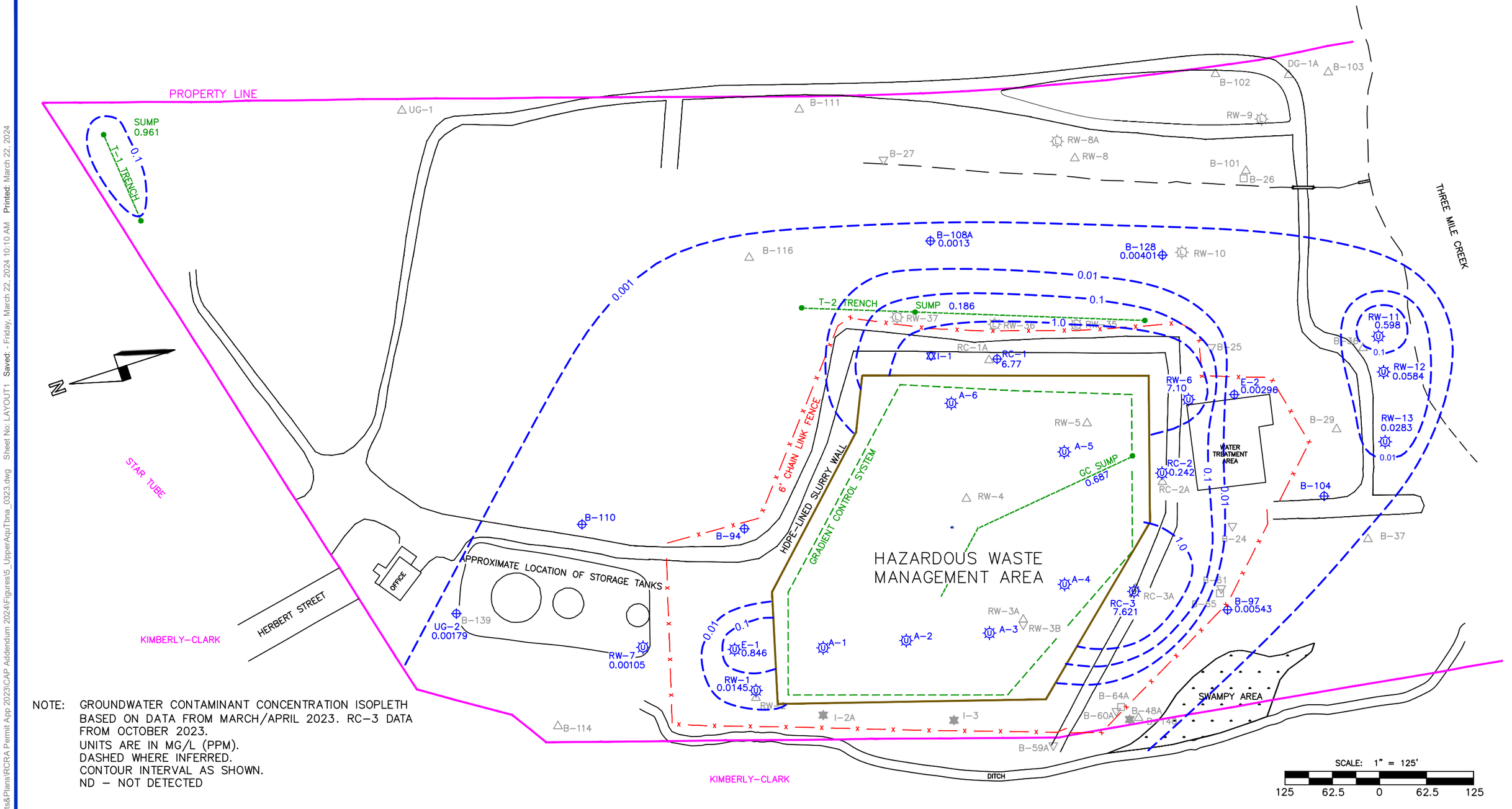
CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

DATE: 01/18/2024	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: 1" = 125'		CAD NO. 4_MobPot Lower_0923

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 4

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\CAP Addendum 2024\Figures\4_MobPot Lower_0923.dwg Sheet No: LOWER Saved: - Friday, March 22, 2024 Printed: March 22, 2024



NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH BASED ON DATA FROM MARCH/APRIL 2023. RC-3 DATA FROM OCTOBER 2023.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

UPPER AQUIFER - TOTAL BASE/NEUTRAL

CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

DATE: 01/17/2024	APPROVED: BY: _____	DRAWN BY: LMM
SCALE: 1" = 125'	DATE: _____	CAD NO. 5_UpperAquTbna_0323

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 5

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\CAP Addendum 2024\Figures\5_UpperAquTbna_0323.dwg Sheet No: LAYOUT1 Saved: - Friday, March 22, 2024 10:10 AM Printed: March 22, 2024

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\CAP Addendum 2024\Figures\6_LowerAquTbna_0323.dwg Sheet No: LAYOUT1 Saved: - Friday, March 22, 2024 Printed: March 22, 2024

PROPERTY LINE

UG-1

B-111

B-102

DG-1A

B-103

RW-9

RW-8A
0.0194

RW-8

B-27

B-101
0.00837

B-26

THREE MILE CREEK

B-108A

B-128

RW-10

B-116

0.01

0.001

RW-37

RW-36

RW-35

1.0

B-36
0.00143

RW-11

RW-12

I-1

RC-1A
2.56

RC-1

B-25
0.00271

A-6

RW-6

E-2

RW-5
0.00244

A-5

B-29

RW-13

WATER TREATMENT AREA

RC-2

RC-2A
0.26

B-104

0.1

6' CHAIN LINK FENCE

HDPE-LINED SLURRY WALL

RW-4
0.0498

B-24
0.00218

B-37

B-110

B-94

0.01

1.0

HAZARDOUS WASTE MANAGEMENT AREA

A-4

RC-3A
0.16

RC-3

B-61

B-65
0.00124

B-97

10

RW-3A
48.2

RW-3B
0.93

A-3

APPROXIMATE LOCATION OF STORAGE TANKS

OFFICE

HERBERT STREET

STAR TUBE

KIMBERLY-CLARK

UG-2
0.00179
B-139

RW-7
0.00105

A-1

A-2

I-1

RW-2
1.41

RW-1

I-2A

I-3

B-64A

B-48A

B-60A
0.00082

B-140

SWAMPY AREA

B-59A

B-114

DITCH

KIMBERLY-CLARK

SCALE: 1" = 125'

125 62.5 0 62.5 125

N

NOTE: GROUNDWATER CONTAMINANT CONCENTRATION ISOPLETH BASED ON DATA FROM MARCH/APRIL 2023. RC-3 DATA FROM OCTOBER 2023.
UNITS ARE IN MG/L (PPM).
DASHED WHERE INFERRED.
CONTOUR INTERVAL AS SHOWN.
ND – NOT DETECTED

LEGEND

- UPPER AQUIFER MONITOR WELL
- UPPER AQUIFER INJECTION WELL
- UPPER AQUIFER RECOVERY WELL
- LOWER AQUIFER INJECTION WELL
- LOWER AQUIFER MONITOR WELL (UPPER PART)
- LOWER AQUIFER MONITOR WELL (INTERMEDIATE)
- LOWER AQUIFER MONITOR WELL (LOWER PART)
- LOWER AQUIFER RECOVERY WELL

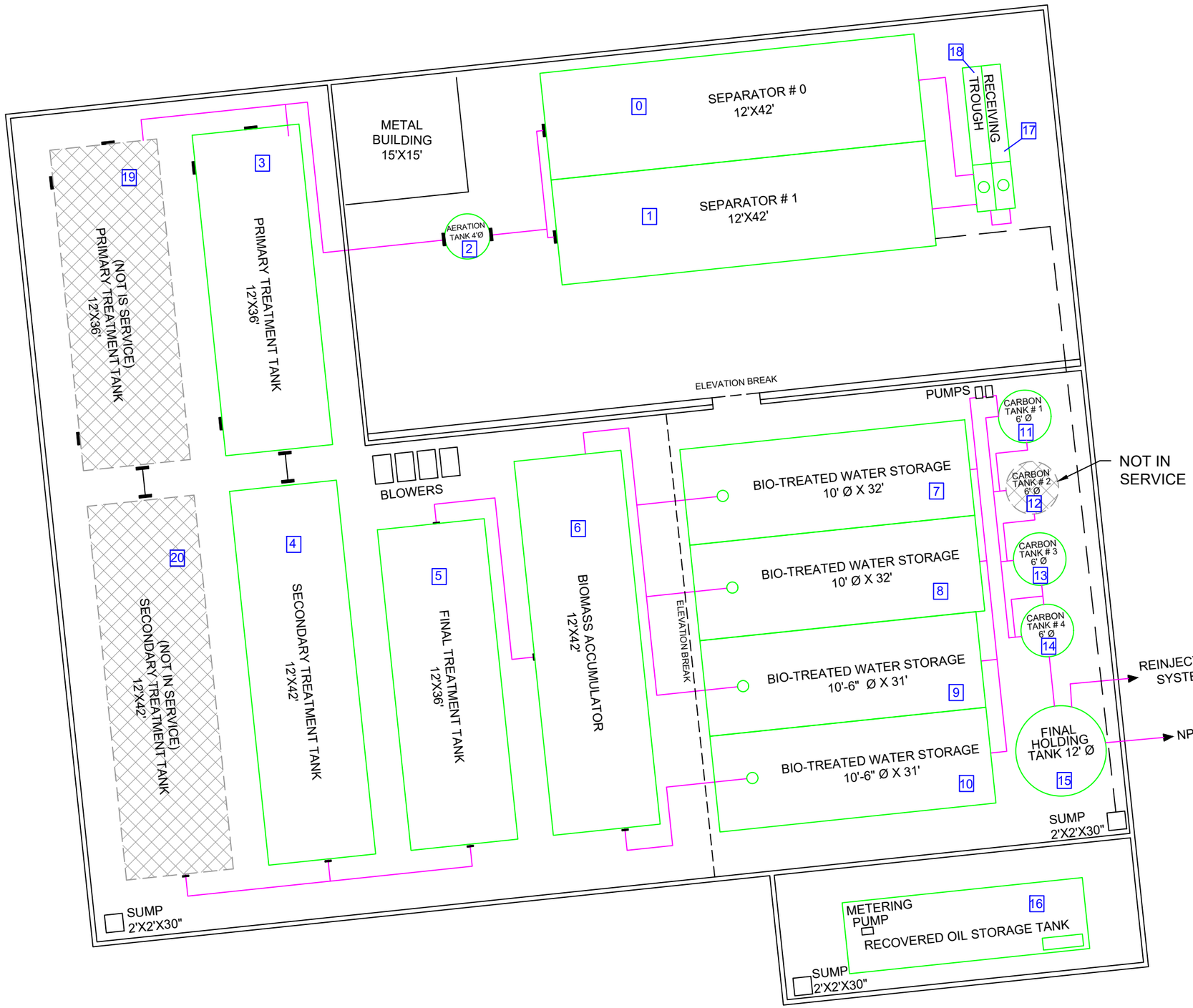
LOWER AQUIFER - TOTAL BASE/NEUTRAL

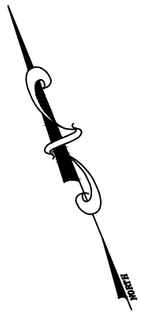
CAVENHAM FOREST INDUSTRIES, LLC
MOBILE, ALABAMA

DATE: 01/17/2024	APPROVED: BY: _____ DATE: _____	DRAWN BY: LMM
SCALE: 1" = 125'		CAD NO. 6_LowerAquTbna_0323

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 6





GRAPHIC SCALE

WATER TREATMENT SYSTEM

CAVENHAM FOREST INDUSTRIES, LLC– MOBILE, ALABAMA

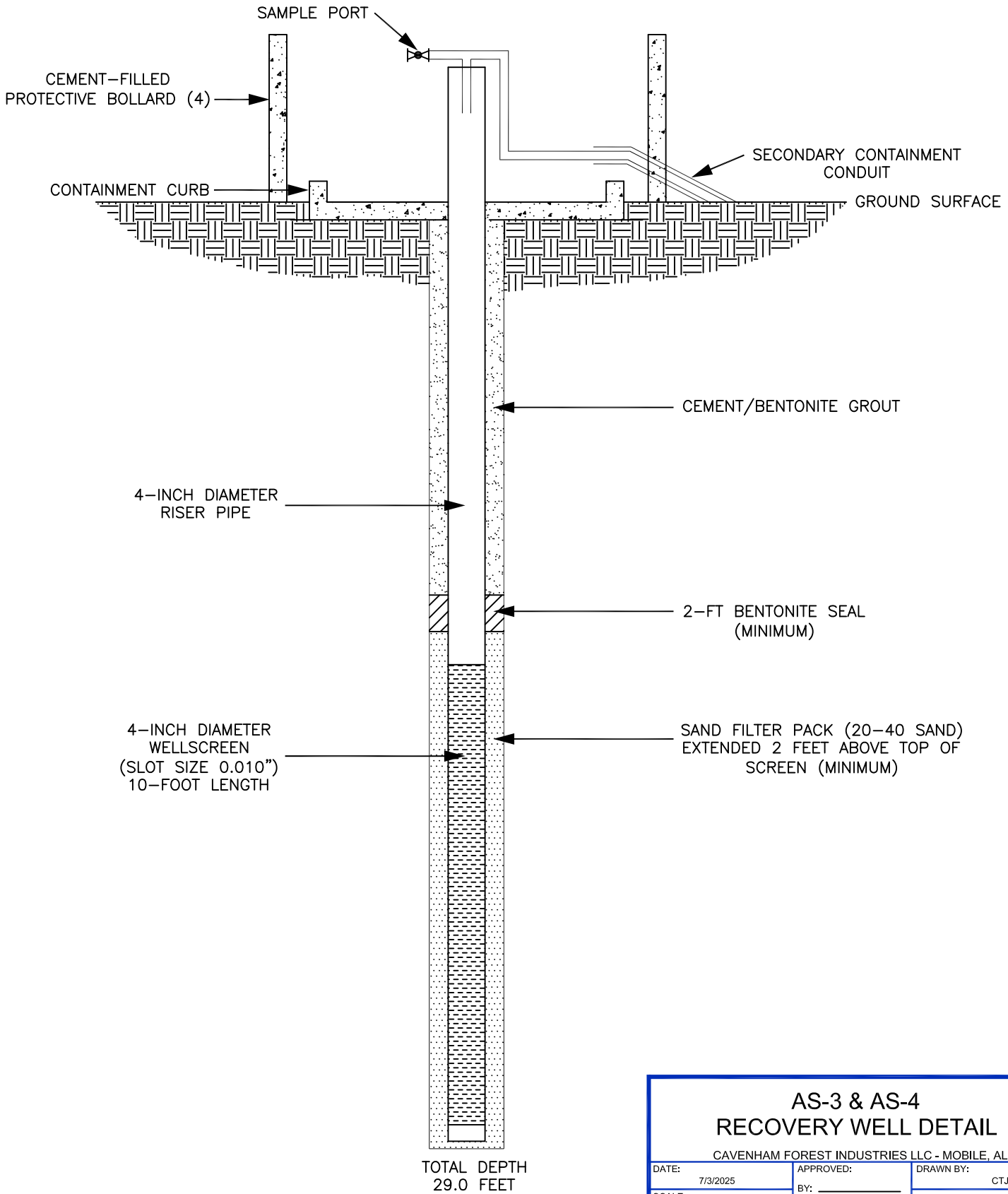
DATE: 08/22/2025	APPROVED: BY: _____ DATE: _____	DRAWN BY: K.R.K.
SCALE: N.T.S.		CAD NO. WTR_TREAT_0611

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 7

H:\CFI_Hanson\Mobile\Drawing\Current Dwgs\WATER TREATMENT MOBILE 1-2025.dwg Sheet No: LAYOUT1 Saved: - Friday, August 22, 2025 12:41 PM Printed: August 22, 2025

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\Collin\Final PDFs\07.03.2025 Reply\Attachment R\AS-3 & AS-4 Rec Well Detail.dwg Sheet No: LAYOUT1 Saved: - Thursday, July 03, 2025 3:58 PM Printed: July 3, 2025



AS-3 & AS-4 RECOVERY WELL DETAIL

CAVENHAM FOREST INDUSTRIES LLC - MOBILE, AL

DATE:	APPROVED:	DRAWN BY:
7/3/2025	BY: _____	CTJ
SCALE:	DATE: _____	CAD NO.
N.T.S.		AS-3 & AS-4 REC WELL DETAIL

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE 8

ATTACHMENT S
SWMU AND AOC DESCRIPTIONS

Solid Waste Management Units
Cavenham Forest Industries LLC
Mobile, Alabama

1.0 Introduction

This section presents descriptions of SWMUs identified during the PR and VSI of the Cavenham Forest Industries LLC facility located in Mobile, Alabama. A detailed description of each unit is included as Exhibit S-1. Much of the information contained in this exhibit is excerpted from the *RCRA Facility Assessment* (RFA) performed by A.T. Kearney, Inc. in November of 1991. Table S-1 summarizes pertinent information regarding the SWMUs. A SWMU location map is provided in Figure S-1.

2.0 SWMU Descriptions

The following are requirements for Solid Waste Management Unit (SWMU) description under ADEM Administrative Code Rule 335-14-8-.05(5) for facilities seeking a permit. Also included is the location of information necessary to satisfy each requirement.

335-14-8-.02(5)(d)Information requirements for solid waste management units.
(d) Information requirements for solid waste management units.

1. The following information is required for each solid waste management unit at a facility seeking a permit:

(i) The location of the unit on the topographic map required under 335-14-8-.02(5)(b)19.

See Figure S-1 for a site map depicting SWMU locations.

(ii) Designation of type of unit.

See Table S-1 for a summary of each SWMU with type of unit designated. For additional detail see Exhibit S-1.

(iii) General dimensions and structural description (supply any available drawings).

Structural descriptions are provided for each SWMU in Exhibit S-1 where applicable.

(iv) When the unit was operated.

Periods of operation are provided in summary Table S-1. Additional detail is provided in Exhibit S-1.

(v) Specification of all wastes that have been managed at the unit, to the extent available.

This is information is summarized in Table S-1. Additional detail is provided in Exhibit S-1.

2. The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of hazardous wastes or hazardous constituents from such unit or units.

Table S-1 provides a summary of descriptive information for each unit. The RCRA Facility Assesment conducted by A.T. Kearney in 1991, provides additional descriptive information and information regarding releases. Reference Foster Wheeler Environmental Corporation *Confirmatory Sampling and RCRA Facility Investigations, Volumes 1 through 3, January 1996,* for a detailed account of releases of hazardous wastes and hazardous constituents from units.

3. The owner/operator must conduct and provide the results of sampling and analysis of groundwater, land surface, and subsurface strata, surface water, or air which may include the installation of wells, where the Department ascertains it is necessary to complete a RCRA Facility Assessment that will determine if a more complete investigation is necessary.

CFI has conducted a RCRA Facility Investigation and confirmatory sampling of the solid waste management units and areas of concern identified in the RCRA Facility Assessment. The results of the investigation are provided in the Foster Wheeler Environmental Corporation report *Confirmatory Sampling and RCRA Facility Investigations, Volumes 1 through 3* (January 1996). Provided below is a summary of actions recommended at solid waste management units and responses by CFI:

SWMU 3

Contamination was detected in the shallow soils and groundwater at the storage tanks located on the northern portion of the property. Recommendations included removal of shallow soils and treatment in the on-site corrective action management unit (CAMU) and continued operation of the nearby recovery well RW-7.

CFI revised the facility corrective action plan in May 2000, by proposing four additional recovery wells for the tank farm area along with other modifications. CFI obtained ADEM approval for the plan, *Corrective Action Plan Amendment* (May 2000) in correspondence dated November 21, 2000.

SWMU 19

Significant levels of wood treating constituents were observed in portions of the woodwaste fill material at the former treated lumber storage pile (south of current hazardous waste management

area). Recommendations included the installation of test pits or trenches to obtain additional data as part of a corrective measures study.

CFI conducted a corrective measures study for SWMU 19 during 1997. The results of the study were presented in the *Corrective Measure Study SWMU 19* report (August 1997). The report recommended excavation of the material in this area and treatment in the on-site corrective action management unit. This material was excavated and treated in the CAMU during 2000.

SWMU 27

Residual soil contamination was observed in soils stockpiled at SWMU 27 (behind the tank farm). Recommendations included removal and treatment of the stockpiled soils and the top 2 feet of the surficial soils beneath the pile. The material was to be placed in the on-site corrective action management unit for treatment.

CFI excavated this material during 1997 and treated it with the other soils within CAMU.

Culvert SWMU

During soil corrective action activities at the site CFI discovered a subsurface culvert that appeared to have routed liquids away from the former process area. This discovery was reported to ADEM in correspondence dated November 1, 1999. Test pits confirmed that a culvert approximately 18 inches in diameter and composed of concrete in some areas and iron or steel in others traversed the site between Three Mile Creek and the present water treatment system. The trend of the piping suggested it continued beneath the present water treatment system and likely terminated within the former process area.

CFI fully excavated the culvert and the surrounding contaminated soil in the area between Three Mile Creek and the existing treatment system. The contaminated soils were placed in the on-site corrective action management unit and treated with other soils. CFI investigated the soils on the north side of the water treatment system in December, 2002. Soil samples from two borings in this area did not detect constituents of concern [*CAMU Certification Report* (May 2004)].

CAMU Certification Report

CFI's *CAMU Certification Report* (May 2004) summarizes the construction, operation and closure of two Corrective Action Management Units (CAMUs) for the treatment of soil. During the remediation approximately 32,365 cubic yards of on-site soils were excavated and treated in the CAMUs to meet established health-based cleanup criteria. The report is included as Attachment H of the Post Closure Permit Application.

4. The owner or operator must provide documentation of compliance with the requirements of the Uniform Environmental Covenants Program in ADEM Admin. Code div. 335-5 for all solid waste management units and areas of concern (including regulated

units) for which remediation does not achieve the standard of unrestricted use.

In April 1995, CFI proposed a modification of the post closure permit to conduct on-site soil remediation. The modification designated two CAMUs and provided risk-based action levels for cleanup of soil by bioremediation. Following ADEM approval the two CAMUs were constructed and during the period November 1997 until January 2002, approximately 32,365 cubic yards of on-site contaminated soils were excavated and treated within the CAMUs. Following treatment, the soils were returned to the site and the CAMUs were closed in accordance with the plan. Attachment H of the Post Closure Permit provides additional information on the construction and operation of CAMUs in the *CAMU Certification Report* (May 2004).

TABLES

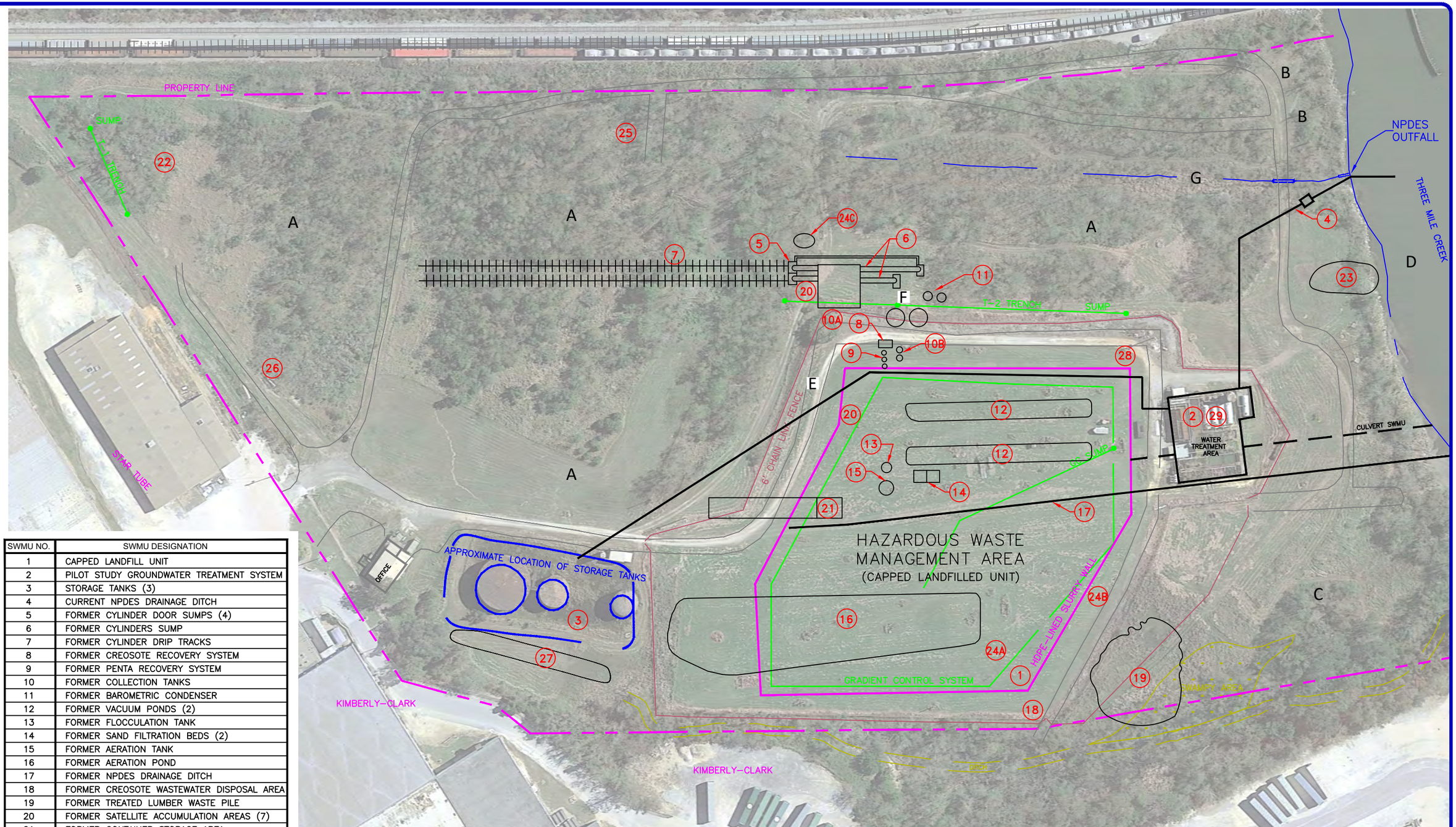
Table S-1
Summary of Descriptive Information - SWMUs & AOCs
Cavenham Forest Industries LLC - Mobile, Alabama

Unit No.	Unit Name	Operation		Estimated Dimensions	Location	Type of Unit/Waste	Status
		Began	Ceased				
Solid Waste Management Units (SWMUs)							
1	Capped Landfill Unit	1988	Present	380' x 420'	See Figure S-1	Landfill/K001	Closed, undergoing groundwater corrective action
2 A-F	Pilot Study Groundwater Treatment System	1991	Present	90' x 112' (overall)	See Figure S-1	2A – Blue Holding Tank/K001	Removed from site
					See Figure S-1	2B – Oil/Water Coalescing Separator/K001	
					See Figure S-1	2C – Receiving Drum/K001	
					See Figure S-1	2D – TM-100 Separator/K001	
					See Figure S-1	2E – TM-100 Carbon Adsorption Unit/K001	
					See Figure S-1	2F – Red Holding Tank/K001	
3 A-C	Storage Tanks (3)	1938	Present		See Figure S-1	Above Ground Tanks	Out of service
4	Current NPDES Drainage Ditch	1989	Present	800' x 20' x 1' deep	See Figure S-1	Drainage Ditch	No longer in service. Sediment sampled in 1995
5	Cylinder Door Sumps (4)	1976	1981	10' x 15' x 4' deep (each)	See Figure S-1	Concrete Sumps	Removed and placed in SWMU 1; residual soil treated
6	Cylinder Sump	1976	1981	50' x 14" x 3' deep	See Figure S-1	Concrete Sump	Removed and placed in SWMU 1; residual soil treated
7	Cylinder Drip Tracks	1938	1981		See Figure S-1	Drip Tracks	Tracks removed; soil placed in SWMU 1; residual soil treated
8 A-C	Creosote Recovery System	1938	1985	25' x 50'	See Figure S-1	Oil Recovery Sumps	Removed and placed in SWMU 1; area capped
9 A-E	Penta Recovery System	Unknown	1981		See Figure S-1	Oil Recovery Sumps	Removed and placed in SWMU 1; area capped
10 A-B	Collection Tanks	mid-1970's	1981		See Figure S-1	Above Ground Tanks	Removed and placed in SWMU 1; area capped
11	Barometric Condenser	1938	1981	6' dia. X 10' tall	See Figure S-1	Condenser	Removed and placed in SWMU 1; residual soil treated
12	Vacuum Ponds (2)	1966	1981	225' x 25' x 10' deep each	See Figure S-1	RCRA-Regulated Surface Impoundments	Closed as landfill, undergoing groundwater corrective action
13	Flocculation Tank	1971	1985	Capacity: 7,000 gallons	See Figure S-1	Above Ground Tank	Removed and placed in SWMU 1; area capped
14	Sand Filtration Beds (2)	1971	1985	30' x 15' x 3' deep	See Figure S-1	RCRA-Regulated Sludge Treatment Unit	Removed and placed in SWMU 1; area capped
15	Aeration Tank	1971	1985	Capacity: 20,000 gallons	See Figure S-1	Above Ground Tank	Removed and placed in SWMU 1; area capped
16	Aeration Pond	1973	1981	375' x 85' x 7' deep	See Figure S-1	RCRA-Regulated Surface Impoundment	Closed as landfill, undergoing groundwater corrective action
17	Former NPDES Drainage Ditch	1938	1987	800' x 20' x 1' deep	See Figure S-1	Former Drainage Ditch	Soil excavated and placed in landfill
18	Creosote Wastewater Disposal Area	1938	1973	7 acres	See Figure S-1	Marsh	Investigated 1996
19	Treated Lumber Waste Pile	Unknown	1987	300' x 250'	See Figure S-1	Waste Pile	Waste placed in SWMU 1; Soil excavated and treated in CAMU
20	Satellite Accumulation Areas (7)	1938	1987	55-gallon drums	See Figure S-1	SAAs	Waste sent off-site; Soil excavated and treated in CAMU

Table S-1
Summary of Descriptive Information - SWMUs & AOCs
Cavenham Forest Industries LLC - Mobile, Alabama

Unit No.	Unit Name	Operation		Estimated Dimensions	Location	Type of Unit/Waste	Status
		Began	Ceased				
Solid Waste Management Units (SWMUs)							
21	Container Storage Area	1971	1985	700 sq. ft.	See Figure S-1	RCRA Storage Area	Waste sent off-site; Building removed and placed in SWMU 1; Area capped
22	North Tar Deposit	Unknown	1987	100' x 30' x 5' deep	See Figure S-1	Waste Pile	Removed and placed in SWMU 1
23	Creek Tar Deposit	Unknown	1987	50' x 80'x 5' thick	See Figure S-1	Waste Pile	Removed and placed in SWMU 1
24 A-C	Spot Deposits	1938	1987	24A – Unknown	See Figure S-1	Waste Piles	Removed and placed in SWMU 1
				24B – Unknown	See Figure S-1		
				24C – 15' x 10' x 2' deep	See Figure S-1		
25	Former Conical Burner	1969	1973	Capacity: 5,000 lb/hr	See Figure S-1	Incinerator	Removed prior to RCRA unit closure
26	BFI Dumpster	1973	Present	N/A	See Figure S-1	Dumpster	In service
27	New Area Behind Tank Farm	1992	Present	280' x 40'	See Figure S-1	Pond	Soil excavated and treated in CAMU
28	Scrap Debris Holding Area	2007	Present	50' x 40'	See Figure S-1	Scrap waste	In service
29	Current Groundwater Treatment System	1993	Ongoing	90' x 112'	See Figure S-1	Groundwater contaminated with wood treating constituents	In service
Areas of Concern (AOCs)							
A	Former Treated Wood Storage	1938	1983	N/A/Variable	See Figure S-1	Drippage from treated wood	Soil excavated and treated in CAMU
B	DG-1A Monitoring Well Plume	1991	Ongoing	Low level of contaminants observed in monitoring well	See Figure S-1	None, monitoring only	Ongoing monitoring
C	Former Oil Pipeline Site	Unknown	1987	8" steel pipeline	See Figure S-1	Wood Treating Oil	Soil excavated and treated in CAMU
D	Three Mile Creek	1938	N/A	Industrial Waterway	See Figure S-1	Stormwater runoff and NPDES discharge	Investigated in 1995
E	Former UST Location	1979	1983	Unknown	See Figure S-1	None	Within SWMU 1 capped area
F	Former Working Tank No. 2	1938	1981	AST 58,750 gallon tank	See Figure S-1	Creosote Sludge	Removed and placed in SWMU 1
G	Eastern Drainage Ditch	1938	N/A	Earthen ditch	See Figure S-1	Stormwater runoff	Soil excavated and treated in CAMU
N/A	Culvert	1999	Present	400' x 15'	See Figure S-1	Culvert	Soil excavated and treated in CAMU

FIGURES



SWMU NO.	SWMU DESIGNATION
1	CAPPED LANDFILL UNIT
2	PILOT STUDY GROUNDWATER TREATMENT SYSTEM
3	STORAGE TANKS (3)
4	CURRENT NPDES DRAINAGE DITCH
5	FORMER CYLINDER DOOR SUMPS (4)
6	FORMER CYLINDERS SUMP
7	FORMER CYLINDER DRIP TRACKS
8	FORMER CREOSOTE RECOVERY SYSTEM
9	FORMER PENTA RECOVERY SYSTEM
10	FORMER COLLECTION TANKS
11	FORMER BAROMETRIC CONDENSER
12	FORMER VACUUM PONDS (2)
13	FORMER FLOCCULATION TANK
14	FORMER SAND FILTRATION BEDS (2)
15	FORMER AERATION TANK
16	FORMER AERATION POND
17	FORMER NPDES DRAINAGE DITCH
18	FORMER CREOSOTE WASTEWATER DISPOSAL AREA
19	FORMER TREATED LUMBER WASTE PILE
20	FORMER SATELLITE ACCUMULATION AREAS (7)
21	FORMER CONTAINER STORAGE AREA
22	NORTH TAR DEPOSIT
23	CREEK TAR DEPOSIT
24	SPOT DEPOSITS
25	FORMER CONICAL BURNER
26	BFI DUMPSTER
27	NEW AREA BEHIND TANK FARM
28	SCRAP DEBRIS HOLDING AREA
29	CURRENT GROUNDWATER TREATMENT SYSTEM
N/A	CULVERT

AOC LETTER	AOC NAME
A	FORMER TREATED WOOD STORAGE
B	DG-1A MONITORING WELL PLUME
C	FORMER OIL PIPELINE SITE
D	THREE MILE CREEK
E	FORMER UST LOCATION
F	FORMER WORKING TANK NO. 2
G	EASTERN DRAINAGE DITCH

N

0 62.5 125
SCALE IN FEET

SWMU AND AOC LOCATIONS

CAVENHAM FOREST INDUSTRIES LLC – MOBILE, ALABAMA

DATE: 8/30/2024	APPROVED: BY: DATE:	DRAWN BY: KRK
SCALE: AS SHOWN		CAD NO. Fig S-1 SWMU-AOC LOC

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

FIGURE S-1

H:\CFI_Hanson\Mobile\Report\Permits&Plans\RCRA Permit App 2023\Collin\Fig S-1 - SWMU-AOC Locations AERIAL.dwg Saved: - Tuesday, September 03, 2024 9:39 AM

EXHIBIT S-1

DETAILED DESCRIPTION OF SWMUs
Excerpt from *RCRA Facility Assessment* (RFA)
by A.T. Kearney, November 1991

III. SWMU AND AOC DESCRIPTIONS

This section presents descriptions of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) identified during the PR and VSI of the Cavenham Forest Industries facility. The current units at the facility are described first, followed by the former units which have all been removed from the site. The former units are presented in the order in which they handled the primary waste (K001), followed by storage and miscellaneous units.

A SWMU and AOC location map is provided in Figure III-1 located in Appendix D. Figure III-2, also in Appendix D, is an aerial photograph of the site taken in the mid- to late-1970's, which illustrates the locations of the regulated units at the facility. The following designations are used to designate release pathways:

L (Low)	minimal potential for release
M (Medium)	moderate potential for release
H (High)	evidence suggests that release(s) have occurred
U (Unknown)	no information is available.

The photograph numbers correspond to the numbering system of the Photographic Log provided in Appendix B.

SWMU NUMBER: 1 **PHOTOGRAPH NUMBER:** 1.1, 1.2, 1.3, 1.4, 1.5 2.1, 3.1, 7.1

NAME: Capped Landfill Unit

TYPE OF UNIT: Landfill

PERIOD OF OPERATION: 1988 to Present

PHYSICAL DESCRIPTION AND CONDITION: This unit encompasses an area of approximately 160,000 square feet in the west central portion of the facility. It consists of a clay-capped landfill which is completely encapsulated by a low permeability, lime-slurry, cutoff wall. A leachate collection system (gradient control system) is present at the base of the unit. The cover of the unit consists of a gas collection/venting system, a low permeability clay liner which is overlain by a synthetic liner, a topsoil drainage control system, topsoil and vegetation. SWMUs encased in the landfill with their associated wastes include the Vacuum Ponds (SWMU 12), the Aeration Pond (SWMU 16), the Container Storage Area (SWMU 21), the Sand Filtration Beds (SWMU 14), portions of the Former NPDES Drainage Ditch (SWMU 17), the North Tar Deposit (SWMU 22), the Creek Tar Deposit (SWMU 23), the Spot Deposits (SWMU 24), the Treated Lumber Waste Pile (SWMU 19), portions of the Treated Wood Storage Areas (AOC A), and various poles, demolition debris, and tank sections derived from the site demolition activities. The landfill covers the former locations of the Creosote Recovery System (SWMU 8), the Penta Recovery System (SWMU 9), the Vacuum Ponds (SWMU 12), the Flocculation Tank (SWMU 13), the Sand Filtration Beds (SWMU 14), the Aeration Tank (SWMU 15), the Container Storage Area (SWMU 21), the Former UST Location (AOC E), and portions of the Aeration Pond (SWMU 16), the Former NPDES Drainage Ditch (SWMU 17), and the Creosote Wastewater Disposal Area (SWMU 18). Details of the waste contained in the SWMUs are included in the individual SWMU descriptions.

The Capped Landfill Unit is complimented by a ground-water recovery well network consisting of seven recovery wells screened over two aquifers. The recovery system was not in operation at the time of the VSI, but was to become operational by March 1992. During the VSI, facility representatives discussed the possibility of pursuing efforts to remediate the wastes contained within the landfill as well.

Closure certification of the unit was accepted by ADEM on April 8, 1991. At the time of the VSI, the landfill was covered with thick vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit contains wood treating wastes including K001 sludge and constituents of creosote, pentachlorophenol, and petroleum derivatives.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATIONS:
No Further Action (*)
Confirmatory Sampling ( )
RFI Necessary ( )

REFERENCE(S): 1, 2, 4, 9, 12, 28, 38, 87, 113, 118, 119

COMMENTS: * Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested. Caution should be taken during ground water removal to ensure that the stability/integrity of the landfill is not weakened.

SWMU NUMBER: 2A-F **PHOTOGRAPH NUMBER:** 1.2, 2.1, 2.2, 2.3

NAME: Pilot Study Ground-Water Treatment System

TYPE OF UNIT:

SWMU 2A	Blue Holding Tank
SWMU 2B	Oil/Water Coalescing Separator
SWMU 2C	Receiving Drum
SWMU 2D	TM-100 Separator
SWMU 2E	TM-100 Carbon Adsorption Unit
SWMU 2F	Red Holding Tank

PERIOD OF OPERATION: Approximately August 1991 to Present

PHYSICAL DESCRIPTION AND CONDITION: This unit is located inside the security fence directly south of the Capped Landfill Unit (SWMU 1). Ground water contaminated with K001 wastes is collected from the leachate collection system (gradient control system) and the ground-water recovery wells. The contaminated ground water is pumped via HDPE piping of approximately 2-inch diameter, into the 250,000-gallon Storage Tank No. 2 (SWMU 3B) in the northwest area of the site. From the storage tank the water is pumped to the Blue Holding Tank (SWMU 2A) which is located at the treatment system. The wastewater is then passed successively through each unit within the system (Oil/Water Coalescing Separator, Receiving Drum, TM-100 Separator, TM-100 Carbon Absorption Unit, and Red Holding Tank) until the treatment process is complete, at which time the water is returned to the 160,000-gallon Storage Tank No. 1 (SWMU 3A). All six units sit on a concrete pad with an 8-inch concrete curbing. The system processes wastewater at a rate of 5 gallons per minute (gpm).

Blue Holding Tank (SWMU 2A): This unit consists of an estimated 20,000-gallon steel tank located on the east end of the ground-water treatment system concrete pad. At the time of the VSI, the top of the tank was open and it was almost full of water. Phenol odors were emanating from the unit and an oily sheen was visible on the surface of the water in the tank. Although no leaks were observed from the tank, the concrete pad underlying the tank was stained in places.

Oil/Water Coalescing Separator (SWMU 2B): This unit consists of an estimated 500-gallon red steel tank located adjacent to the west side of the Blue Holding Tank (SWMU 2A). The unit, which is the first treatment unit in the system, separates the light and heavy immiscible oils from the wastewater. The treated

wastewaters flow into a black 55-gallon Receiving Drum (SWMU 2C). Upon completion of the pilot test, the oil recovered from the unit will be incinerated at Allied Chemical in Birmingham, Alabama. No releases were observed from this unit.

Receiving Drum (SWMU 2C): This unit consists of a black 55-gallon drum located directly south of the Oil/Water Coalescing Unit (SWMU 2B). The drum is used to temporarily store wastewater from the separator prior to treatment in the TM-100 Separator (SWMU 2D). No releases were observed from this unit.

TM-100 Separator (SWMU 2D): This unit consists of a gray 100-gallon steel tank located west of the Oil/Water Coalescing Separator (SWMU 2B). The unit is manufactured by Technical Minerals, Inc. (a division of Ergon) and contains an internal element of bentonite clay bonded with an amine, which adsorbs dissolved and suspended oils from the wastewater. The treated wastewater flows into the TM-100 Carbon Adsorption Unit (SWMU 2E). Upon completion of the pilot study, the contaminated residue will be incinerated at Allied Chemical in Birmingham, Alabama. No releases were observed from this unit.

TM-100 Carbon Adsorption Unit (SWMU 2E): This unit consists of a 100-gallon carbon steel tank located north of the TM-100 Separator Unit (SWMU 2D). Like the TM-100 Separator, the unit is manufactured by Technical Minerals, Inc. (a division of Ergon). This unit is the last treatment stage in the Pilot Study Ground-Water Treatment System. The treated wastewater flows from this unit into the Red Holding Tank (SWMU 2F). The contaminated carbon from this unit will reportedly be incinerated at Allied Chemical in Birmingham, Alabama. No releases were observed from this unit.

Red Holding Tank (SWMU 2F): This unit consists of an estimated 500-gallon, open-topped, steel tank. The unit temporarily holds the treated ground water prior to being pumped via HDPE tubing back to Storage Tank No. 1 (SWMU 3A). No releases were observed from this unit.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit manages ground water contaminated with creosote and pentachlorophenol (K001) constituents.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): Some wetness was visible on the concrete pad underlying the Blue Holding Tank (SWMU 2A), but no releases to soil outside the pad were observed at the time of the VSI.

RECOMMENDATIONS:

No Further Action	(*)
Confirmatory Sampling	( )
RFI Necessary	( )

REFERENCE(S): 1

COMMENTS: * This SWMU is a temporary system (pilot study) designed to test the efficiency of the TM-100 units in remediating the contaminated ground water. It will ultimately be replaced with a permanent system. The associated wastes generated by the system should be disposed at a permitted facility. In addition, the permanent treatment system should have sufficient secondary containment to contain the full capacity of the largest tank within the unit to prevent the possible release of contaminated ground water to the surrounding soil.

SWMU NUMBER: 3A-C **PHOTOGRAPH NUMBER:** 1.3, 3.1, 3.2 3.3, 3.4, A.1

NAME: Storage Tanks (3)

TYPE OF UNIT: Above-Ground Tanks;
SWMU 3A Tank No. 1
SWMU 3B Tank No. 2
SWMU 3C Tank No. 3

PERIOD OF OPERATION: 1938 to Present

PHYSICAL DESCRIPTION AND CONDITION: This unit is located in the northwestern corner of the facility directly south of the facility office. The unit consists of three above-ground storage tanks formerly used to store creosote and pentachlorophenol carrier (No. 2 diesel fuel with a co-solvent for mixing) from 1938 until 1985; the tanks have been used as part of the NPDES water treatment system since 1985. The tanks are constructed of steel and do not have any associated concrete containment.

The southernmost tank (Tank No. 1, SWMU 3A) has a capacity of 160,000 gallons and was used to store pentachlorophenol carrier. The tank was cleaned as part of the closure activities and currently contains 11,000 gallons of treated ground water and rainfall runoff which was collected during the closure activities. Facility representatives could not provide details on the cleaning of the tanks. The water in the tank will be discharged under NPDES Permit AL0001104.

The center tank (Tank No. 2, SWMU 3B) has a capacity of 250,000 gallons and was used to store creosote product. Since 1985 the tank has been used to store construction wastewater from corrective action activities and contaminated ground water from the recovery wells. The tank currently contains approximately 5,000 gallons of untreated water. Water in the tank is pumped to the Pilot Study Ground-Water Treatment System (SWMU 2) through HDPE lines.

The northernmost tank (Tank No. 3, SWMU 3C) has a capacity of 750,000 gallons and was used to store creosote product. The tank was empty at the time of the VSI. The three tanks are surrounded by a four-foot high earthen dike which reportedly has the capacity to contain a 900,000 gallon release; no other concrete or impermeable containment features are present. No integrity

tests have been performed on the tanks. According to the facility representatives, no spills or leaks have been recorded or suspected in the tank farm area.

At the time of the VSI, the area was overgrown with vegetation. Some standing water (probably rain water according to facility representatives) was observed within the containment area. Former discharge valves on the tanks (recently sealed shut) were almost at ground level. The tanks appeared to either be settling, or sediments in the containment area have built up around the base of the tanks.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The units formerly managed creosote and pentachlorophenol products, along with petroleum-based (No. 2 fuel oil) carrier solutions. Since 1985 the units have managed treated and untreated, contaminated ground water.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	(*)
RFI Necessary	( )

REFERENCE(S): 1, 105

COMMENTS: * Due to the age of the tanks and the lack of secondary containment, integrity testing of the units is suggested to insure that contaminated ground water will not be released to surrounding soil. If the integrity of any of the tanks is impaired, then confirmatory sampling may be warranted. In addition, the stability of the tanks relative to ground surface should be investigated to ensure that the tanks are not settling or shifting.

SWMU NUMBER: 4 **PHOTOGRAPH NUMBER:** 4.1, 4.2, 4.3

NAME: Current NPDES Drainage Ditch

TYPE OF UNIT: Drainage Ditch

PERIOD OF OPERATION: 1989 to Present

PHYSICAL DESCRIPTION AND CONDITION: This unit is located in a north to south orientation along the western boundary of the facility. To the south, the ditch intersects the Former NPDES Drainage Ditch (SWMU 17) prior to discharging to Threemile Creek (AOC D). The ditch was designed to channel site surface runoff to the creek after the original NPDES drainage ditch was excavated during field closure activities. This unit will handle all future discharge under the NPDES permit for the facility. The unit is located within the Former Creosote Wastewater Disposal Area (SWMU 18) where K001 wastewaters were disposed until approximately 1973.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit may have received process wastewaters in the past containing creosote and pentachlorophenol constituents.

RELEASE PATHWAYS: Air (L) Surface Water (U) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was identified in the available file material. An oily sheen was present on the water surface at the time of the VSI. It has not been established whether the sheen was naturally occurring organic derivatives from the underlying peats or potential leachate from the Creosote Wastewater Disposal Area (SWMU 18). This unit is located within the Creosote Wastewater Disposal Area (SWMU 18).

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	( )
RFI Necessary	(*)

REFERENCE(S): 1

COMMENTS: * Sampling of the ditch surface water and sediment is suggested to determine if the oily substance on the ditch surface contains hazardous constituents. The investigation should be incorporated within the investigation of the Creosote Wastewater Disposal Area (SWMU 18).

SWMU NUMBER: 5 **PHOTOGRAPH NUMBER:** 1.5, 5.1, 6.1

NAME: Cylinder Door Sumps

TYPE OF UNIT: Concrete Sumps

PERIOD OF OPERATION: Approximately 1976 to November 1981

PHYSICAL DESCRIPTION AND CONDITION: The unit consisted of four concrete sumps, one located beneath each door of the two treatment cylinders used at the facility. The treatment cylinders and sumps were located in the central portion of the site, east of the Capped Landfill Unit (SWMU 1, a current SWMU). The rectangular sumps were constructed of concrete, each measuring approximately 10 feet by 15 feet by four feet deep.

The unit received residual treatment solutions from the cylinders when the treated lumber was removed. The drainage consisted of either used creosote oils or used pentachlorophenol solution, depending upon the treatment utilized. The collected solution was then transferred to the Creosote Recovery System (SWMU 8) or the Penta Recovery System (SWMU 9) as appropriate.

The facility representative had no recollection of integrity testing being performed on the unit or of it leaking. The unit was reportedly removed during the closure activities at the site and visual contamination was placed within the Capped Landfill Unit (SWMU 1). However, no soil sampling was performed to confirm that all contaminated soil was removed. At the time of the VSI, the former location of the unit was sparsely covered with vegetation. The former units were located outside the containment wall of the Capped Landfill Unit (SWMU 1), but possibly within the security fence surrounding the landfill.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit received drainage containing creosote oils and pentachlorophenol.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): An Alabama Water Improvement Commission (AWIC) Inspection Report from February 4, 1976 suggested that concrete curbing be added around the separation units and at the ends of the treatment cylinders. The recommendation was based on the observation of the ground surface covered with black oily liquids with no provision for containment. In addition, ground-water contamination has been confirmed in the upper aquifer below this area of the facility in well RC-1. Evidence of contamination was observed during the drilling of boring B-45 in the vicinity of this unit.

RECOMMENDATIONS:

No Further Action ( )
Confirmatory Sampling ( )
RFI Necessary (*)

REFERENCE(S): 1, 2, 105, 133

COMMENTS: * The investigation of the former location of these sumps should be performed in conjunction with the other units located in the treatment area.

SWMU NUMBER: 6 **PHOTOGRAPH NUMBER:** 1.5, 5.1, 6.1

NAME: Cylinders Sump

TYPE OF UNIT: Concrete Sump

PERIOD OF OPERATION: Approximately 1976 to November 1981

PHYSICAL DESCRIPTION AND CONDITION: The cylinders sump was located beneath the midsections of both treatment cylinders, in the central portion of the facility. The unit was described as concrete, measuring 50 feet long, 14 feet wide, and three feet deep. Concrete curbing was added around the eastern side of the treatment cylinders in approximately 1981. The unit received drippage from the treatment cylinders and the connecting piping. The drippage may have contained creosote oils or pentachlorophenol depending upon the treatment in use. Liquids collected in the unit were pumped to the Creosote and Penta Recovery Systems (SWMUs 8 and 9), depending upon the solution used for treatment.

Although the treatment cylinders were periodically tested for integrity, the containment structures have no record of integrity testing. The unit was removed during the closure activities at the site and visual contamination was placed within the Capped Landfill Unit (SWMU 1). However, no soil sampling was performed to confirm that all contaminated soil was removed. At the time of the VSI, the former location of the unit was sparsely covered with vegetation. The former unit was located outside the containment wall of the Capped Landfill Unit (SWMU 1), but possibly within the security fence surrounding the landfill.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit received drainage containing creosote oils and pentachlorophenol.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): An AWIC Inspection Report from February 4, 1976 suggested that concrete curbing be added around the separation units and at the ends of the treatment cylinders. The recommendation was based on the observation of ground surface covered with black oily liquids with no provision

for containment. Ground-water contamination has been confirmed in the upper aquifer below this area of the facility. In addition, evidence of contamination was observed during the drilling of boring B-45 in this area.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	( )
RFI Necessary	(*)

REFERENCE(S): 1, 2, 105, 133

COMMENTS: * The RFI of the former location of this sump should be performed in conjunction with the other units located in the treatment area. Since the units have been removed and the area backfilled, the soil samples should be taken at sufficient depth to reach native soil which has not been manipulated.

SWMU NUMBER: 7 **PHOTOGRAPH NUMBER:** 1.5, 6.1, 7.1

NAME: Cylinder Drip Tracks

TYPE OF UNIT: Drip Tracks

PERIOD OF OPERATION: 1938 to November 1981

PHYSICAL DESCRIPTION AND CONDITION: The unit extended north from the treatment cylinders in the central area of the facility. The unit consisted of railroad tracks on which charges of treated lumber were held immediately after treatment. According to the facility representative, the unit did not have a concrete base or containment measures. Reportedly the lumber treated with pentachlorophenol was essentially dry when removed from the cylinders. However, the representative was not familiar with the creosote process and aerial photographs of the site dating from the mid- to late-1970's show that the area was darkly stained. Any visibly contaminated areas were reportedly excavated during closure activities and deposited in the Capped Landfill Unit (SWMU 1). However, no soil sampling was performed to confirm that all contaminated soil was removed. At the time of the VSI, the former location of this unit was covered with grass.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit received drippage of creosote oils and possibly pentachlorophenol solution.

RELEASE PATHWAYS:

Air	(L)	Surface Water	(L)
Soil	(H)		
Ground Water	(H)	Subsurface Gas	(L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): An aerial photograph of the site taken during the mid- to late-1970's shows the drip tracks were darkly stained.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	(*)
RFI Necessary	( )

REFERENCE(S): 1, 2, 129, 133

COMMENTS: * Since the units have been removed and the area backfilled, the soil samples should be taken at sufficient depth to reach native soil which has not been manipulated.

SWMU NUMBER: 8A-C

PHOTOGRAPH NUMBER: The unit is located within SWUM 1

NAME: Creosote Recovery System

TYPE OF UNIT: Oil Recovery Sumps

PERIOD OF OPERATION: Approximately 1938 to 1985

PHYSICAL DESCRIPTION AND CONDITION: The unit was located west of the treatment area, directly south of the boiler house, in the central area of the facility. It consisted of one concrete baffled sump (SWMU 8A) and two successive oil/water separation sumps (SWMUs 8B and 8C).

During the steam-conditioning cycle in the treatment cylinders, the condensate would wash the oil remaining on the walls and in the bottom of the cylinder from the previous treatment cycle out to the exhaust pipe (prior to approximately 1976) or to the Cylinder Door Sumps (SWMU 5). According to the Spill Prevention Control and Counter-measures (SPCC) plan for the facility, a Collection Tank (SWMU 10A) was utilized to hold the condensate drainage from the treatment cylinders prior to routing the wastewater through this unit. The used solution containing creosote oils was collected in an oil collection sump (SWMU 8A, also referred to as a tank by facility representatives), where the mixture was heated to force any water to the surface. The denser reclaimed creosote oil was then pumped from the bottom of the sump to the creosote working tanks and the water on top was sent through the two oil/water API separators (SWMUs 8B and 8C). The separation sumps are referred to by facility representatives as tanks with a capacity of approximately 2000 gallons each. Wastewater exiting the oil/water separation units was released to another Collection Tank (SWMU 10B) according to an AWIC facility inspection in 1976. From here, the water was released to the Vacuum Ponds (SWMU 12). Prior to 1966, all effluent from the unit was discharged through a pipeline to Threemile Creek (AOC D). Current facility representatives were unaware of the pipelines existence or use.

The unit was reportedly removed during the closure activities at the site and placed along with any visual contamination into the Capped Landfill Unit (SWMU 1). The former unit was located within the cutoff wall of the present Capped Landfill Unit (SWMU 1). At the time of the VSI, the area was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed condensate wastewater containing creosote oils.

RELEASE PATHWAYS:

Air	(L)	Surface Water	(L)	Soil	(L)
Ground Water	(L)	Subsurface Gas	(L)		

HISTORY AND/OR EVIDENCE OF RELEASE(S): An AWIC Inspection Report from February 4, 1976 suggested that concrete curbing be added around the separation units and at the ends of the treatment cylinders. The recommendation was based on the observation of ground surface covered with black oily liquids with no provision for containment. An April 17, 1985 ADEM inspection noted open vats of oil or creosote at the oil recovery system south of the boiler house as a potential source of contamination for ground water. In addition, ground-water contamination has been confirmed in the upper aquifer below this area of the facility.

RECOMMENDATIONS:

No Further Action	(*)
Confirmatory Sampling	( )
RFI Necessary	( )

REFERENCE(S): 1, 2, 59, 105, 133, 142, 143, 144

COMMENTS: * Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested.

SWMU NUMBER: 9A-E **PHOTOGRAPH NUMBER:** The unit is located within SWUM 1

NAME: Penta Recovery System

TYPE OF UNIT: Oil Recovery Sumps

PERIOD OF OPERATION: Unknown to November 1981

PHYSICAL DESCRIPTION AND CONDITION: The unit was located west of the treatment area, directly south of the boiler house, in the central area of the facility. It consisted of five oil/water separation sumps (SWMUs 9A-E). The sumps were referred to by facility representatives as tanks with a capacity of approximately 2000 gallons each. It was unclear from the file material and from speaking with the facility representatives as to whether the separators were the same as or separate from the separators used in the Creosote Recovery System (SWMU 8). According to the SPCC plan for the facility, a Collection Tank (SWMU 10A) was utilized to hold the condensate drainage from the treatment cylinders prior to routing through this unit. Condensate drainage from the treatment cylinders containing pentachlorophenol was routed through the unit to recover the pentachlorophenol solution. The pentachlorophenol solution contained No. 2 fuel oil (diesel) which caused the solution to float. The solution was drawn from the surface of the water in the sumps, and the remaining wastewater was then discharged to the Vacuum Ponds (SWMU 12). Prior to 1966, all effluent from the unit was discharged through a pipeline to Threemile Creek (AOC D). Current facility representatives were unaware of the pipelines existence or use.

The unit was reportedly removed during the closure activities at the site and placed, along with any visual contamination, into the Capped Landfill Unit (SWMU 1). The former unit was located within the cutoff wall of the present Capped Landfill Unit (SWMU 1). At the time of the VSI, the area was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed condensate wastewater containing pentachlorophenol solution.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): An AWIC Inspection Report from February 4, 1976 suggested that concrete curbing be added around the separation units and at the ends of the treatment cylinders. The recommendation was based on the observation of ground surface covered with black oily liquids with no provision for containment. In addition, ground-water contamination has been confirmed beneath the former location of this unit.

RECOMMENDATIONS:

No Further Action	(*)
Confirmatory Sampling	( )
RFI Necessary	( )

REFERENCE(S): 1, 2, 59, 105, 133, 142

COMMENTS: * Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested.

SWMU NUMBER: 10A-B

PHOTOGRAPH NUMBER: No longer present at facility

NAME: Collection Tanks

TYPE OF UNIT: Above-Ground Tanks

PERIOD OF OPERATION: Mid 1970's to 1981

PHYSICAL DESCRIPTION AND CONDITION: The unit has been described in association with the Creosote and Penta Recovery Systems (SWMUs 8 and 9). The facility SPCC plan, originally written around 1974 and updated in September 1981, mentions the collection tank (SWMU 10A) used for the accumulation of condensate drainage from the treatment cylinders prior to routing through the recovery systems. No physical description of the unit was given. Facility representatives suggest that the collection tank was part of the Creosote Recovery System (SWMU 8) but this does not agree with the SPCC plan.

A 1976 AWIC Inspection Report describes a collection tank (SWMU 10B) used for the accumulation of supernatant from the recovery systems, prior to discharge to the Vacuum Ponds (SWMU 12). The dimensions, construction and exact position of the tank are not mentioned.

The unit was presumably removed during the closure activities at the site and placed, along with any visual contamination, into the Capped Landfill Unit (SWMU 1). The first tank (SWMU 10A) was probably located near the treatment cylinders while the second tank (SWMU 10B) was probably located within the cutoff wall of the present Capped Landfill Unit (SWMU 1). At the time of the VSI, the area was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed condensate drainage from the treatment cylinders containing creosote oils and pentachlorophenol solution.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was noted in the available file material or observed during the VSI.

RECOMMENDATIONS:

No Further Action (*)
Confirmatory Sampling ( )
RFI Necessary ( )

REFERENCE(S): 105, 133, 143, 144

COMMENTS:

* Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested.

SWMU NUMBER: 11 **PHOTOGRAPH NUMBER:** 1.5, 6.1

NAME: Barometric Condenser

TYPE OF UNIT: Condenser

PERIOD OF OPERATION: 1938 to November 1981

PHYSICAL DESCRIPTION AND CONDITION: The unit was located in the vicinity of the treatment cylinders in the central portion of the facility. The unit consisted of an elevated steel drum with a steel grate top and cone shaped bottom, and the concrete well to which it drained. The drum was approximately six feet in diameter, ten feet high, and was positioned on a 40 foot tower. A steam jet was attached to the side of the drum to pull the vapors from the treatment cylinders into the drum. Water was pumped to the top of the unit to create a water curtain for the condensation of vapors pulled from the treatment cylinders. From 1938 to 1966, the water was pumped from and returned to Threemile Creek (AOC D). In 1966 the Vacuum Ponds (SWMU 12) were installed for the supply and discharge of the condenser water. The condenser water drained to a hot well located beneath the condenser. The hot well was described by facility representatives as a concrete box measuring approximately five feet by five feet deep. The well was situated with the base approximately one foot into the ground. A shallow steel pipe drained the liquid from the well by gravity to the Vacuum Ponds (SWMU 12). The unit was reportedly operated 10 hours per day, 5 days per week, and 51 weeks per year.

The entire unit was reportedly removed during the closure activities at the site and placed within the Capped Landfill Unit (SWMU 1), along with any visual contamination. However, no soil sampling was performed to confirm that all contaminated soil was removed. At the time of the VSI, the former location of the unit was sparsely covered with vegetation. The former unit was located outside the containment wall of the Capped Landfill Unit (SWMU 1), but possibly within the security fence surrounding the landfill.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed pentachlorophenol and creosote vapors from the operation of the treatment cylinders. From 1966 to 1981, wastewater from the Vacuum Ponds (SWMU 12) was used to create the water curtain in the unit.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was noted in the available file material or observed during the VSI. However, no integrity testing is reported to have been performed on the hot well thus leaving the possibility of release to soil unknown.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	( )
RFI Necessary	(*)

REFERENCE(S): 1, 79, 133, 141, 142, 144

COMMENTS: * An RFI of the entire treatment process area and the former locations of associated units has been suggested due to the amount of contamination in the area and unsubstantiated clean-up.

SWMU NUMBER: 12

PHOTOGRAPH NUMBER: The unit is located within SWUM 1; the ponds are pictured in the aerial photograph provided in Appendix D.

NAME: Vacuum Ponds

TYPE OF UNIT: RCRA-Regulated Surface Impoundment

PERIOD OF OPERATION: 1966 to November 1981

PHYSICAL DESCRIPTION AND CONDITION: The unit was located southwest of the treatment cylinders in the central area of the facility. It consisted of two parallel ponds, running north and south, each approximately 225 feet long, 25 feet wide at the top of the banks, 10 feet wide at the bottom, and 8 to 10 feet deep. The total capacity for both ponds together was approximately 420,000 gallons. The ponds were lined with gunnite, approximately four inches thick on the walls and eight inches thick on the bottom. Although the facility representative recalls the 15-feet wide area between the ponds being lined, file material indicates the area was unlined for some length of time. The two ponds were encircled by a three-feet high ring levee composed of clay core with a shell covered surface.

The ponds served as a source of contact cooling water for the Barometric Condenser (SWMU 11) and as an accumulation pond for process wastewater. The unit was RCRA-regulated due to the generation and storage of K001 sludge.

During closure activities around 1986, the sludge within the unit and sludges from some of the other units were solidified using lime kiln dust within the boundaries of the western pond. The sludge inventory was estimated to be approximately 3270 cubic yards in the Vacuum Ponds and the Aeration Pond (SWMU 16) combined.

The former unit is located within the cutoff wall of the present Capped Landfill Unit (SWMU 1). At the time of the VSI, the area was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed process wastewater from the treatment of lumber with creosote and pentachlorophenol, as well as K001 sludge generated from the wastewater.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): The unit reportedly was occasionally filled to the point of overflowing onto the unlined portion between the ponds. Ground-water contamination has been confirmed from the former unit in both the upper and lower aquifers. The ground-water contamination is currently being addressed under corrective action at the facility.

RECOMMENDATIONS:
No Further Action (*)
Confirmatory Sampling ( )
RFI Necessary ( )

REFERENCE(S): 1, 2, 3, 9, 27, 28, 29, 30, 31, 32, 33, 38, 39, 45, 49, 50, 51, 64, 68, 78, 79, 87, 91, 93, 105, 126, 133, 136, 142, 143, 144

COMMENTS: * Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested.

SWMU NUMBER: 13 **PHOTOGRAPH NUMBER:** The unit is located within SWUM 1

NAME: Flocculation Tank

TYPE OF UNIT: Above-Ground Tank

PERIOD OF OPERATION: Approximately 1971 to 1985

PHYSICAL DESCRIPTION AND CONDITION: The unit was located adjacent to the northwest corner of the Vacuum Ponds (SWMU 12), north of the Sand Filtration Beds (SWMU 14), and east of the Aeration Tank (SWMU 15), in the western half of the facility. The unit consisted of an above-ground steel tank with a capacity of approximately 7000 gallons. No secondary containment was associated with the unit.

Wastewater from the Vacuum Ponds (SWMU 12) was pumped to the unit for flocculation with Volclay and two polyelectrolytes. The clarified supernatant was then released to the Aeration Tank (SWMU 15) through above-ground piping. Collected sludge was shovelled weekly into the Sand Filtration Beds (SWMU 14) located on the northwest bank of the Vacuum Ponds (SWMU 12).

During closure of the site, the unit was reportedly cleaned out, cut into pieces and deposited within the landfill. The former location of the unit is within the cut-off wall of the Capped Landfill Unit (SWMU 1). At the time of the VSI, the landfill was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed process wastewater from the treatment of lumber with creosote and pentachlorophenol, as well as K001 sludge generated from the wastewater.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No secondary containment was associated with the unit for the containment of drippage or spills of sludge. Ground-water contamination has been confirmed beneath the former unit in both the upper and lower aquifers. The ground-water contamination is currently being addressed under corrective action at the facility.

RECOMMENDATIONS:

No Further Action (*)
Confirmatory Sampling ( )
RFI Necessary ( )

REFERENCE(S): 1, 2, 142, 143, 144

COMMENTS:

* Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested.

SWMU NUMBER: 14

PHOTOGRAPH NUMBER: The unit is located within SWUM 1

NAME: Sand Filtration Beds (2)

TYPE OF UNIT: RCRA-Regulated Sludge Treatment Unit

PERIOD OF OPERATION: Approximately 1971 to 1985

PHYSICAL DESCRIPTION AND CONDITION: The unit was located on the northwest bank of the Vacuum Ponds (SWMU 12), south of the Flocculation and Aeration Tanks (SWMUs 13 and 15), in the western half of the facility. The units were designed for the dewatering of the K001 wastewater treatment sludge.

The units consisted of open-topped concrete boxes, measuring 30 feet long, 15 feet wide and 3 feet deep. Each unit contained 1 to 2 feet of gravel and sand in the bottom, and had a maximum capacity of 50 cubic yards of sludge. The units were situated on top of the Vacuum Ponds (SWMU 12) levee such that the bottom of each box was above the level of the water in the ponds. Weep holes in the bottom of each box allowed the liquid to drain from the sludge into the Vacuum Ponds (SWMU 12).

Sludge from the Flocculation Tank (SWMU 13) was placed in the unit daily. One bed was used each week, allowing the sludge in the other bed to dry. Dried sludge was removed from the unit at the end of each week. The dried sludge was reportedly removed with a pitchfork into 55-gallon drums, which were then transferred to the Container Storage Area (SWMU 21) located within the warehouse at the facility.

The unit was located within the Capped Landfill Unit (SWMU 1). The unit was reportedly placed within the western Vacuum Pond (SWMU 12) with other SWMUs and waste during closure activities. At the time of the VSI, the landfill was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed K001 sludge from the treatment of wastewaters from wood preserving processes using creosote and pentachlorophenol.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No secondary containment was associated with the unit for the containment of drippage or spills of sludge. Ground-water contamination has been confirmed beneath the former unit in both the upper and lower aquifers. The ground-water contamination is currently being addressed under corrective action at the facility.

RECOMMENDATIONS:

No Further Action	(*)
Confirmatory Sampling	( )
RFI Necessary	( )

REFERENCE(S): 1, 2, 3, 9, 28, 33, 38, 39, 40, 48, 49, 51, 62, 64, 66, 68, 79, 87, 91, 142

COMMENTS: * Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested.

SWMU NUMBER: 15 **PHOTOGRAPH NUMBER:** The unit is located within SWUM 1

NAME: Aeration Tank

TYPE OF UNIT: Above-Ground Tank

PERIOD OF OPERATION: Approximately 1971 to 1985

PHYSICAL DESCRIPTION AND CONDITION: The unit was located directly west of the Flocculation Tank (SWMU 13), in the western half of the facility. It was reportedly an above-ground tank with a capacity of 20,000 gallons.

The unit received the supernatant from the Flocculation Tank (SWMU 13) after the sludge had been removed to the Sand Filtration Beds (SWMU 14). The supernatant was treated in the unit with ammonium nitrate (approximately one 25-pound bag per day). The treatment was performed on 20,000-gallon batches. The facility representative reported observing biological life in the tank, (e.g., plants, algae). According to the facility representative, no sludge accumulated nor was removed from the unit. Effluent from the unit was released to the Aeration Pond (SWMU 16) via above-ground piping.

The unit was reportedly cleaned out and dismantled during the closure activities of 1987. Pieces of the unit were buried in the Capped Landfill Unit (SWMU 1) along with the other dismantled tanks at the site. The former location of the unit is within the boundaries of the Capped Landfill Unit (SWMU 1). At the time of the VSI, the landfill was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit received supernatant from the flocculation of process wastewaters from wood treatment using creosote and pentachlorophenol.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was noted in the available file material or observed during the VSI. However, ground-water contamination has been confirmed beneath the area of the former unit.

RECOMMENDATIONS:

No Further Action (*)
Confirmatory Sampling ( )
RFI Necessary ( )

REFERENCE(S): 1, 2, 142, 143, 144

COMMENTS: * Continued efforts towards remediation of the Capped Landfill Unit (SWMU 1) and continued corrective action for contaminated ground water is suggested.

SWMU NUMBER: 16 **PHOTOGRAPH NUMBER:** 1.3

NAME: Aeration Pond

TYPE OF UNIT: RCRA-Regulated Surface Impoundment

PERIOD OF OPERATION: Approximately 1973 to November 1981

PHYSICAL DESCRIPTION AND CONDITION: The unit was located along the western border of the facility, directly south of the Storage Tanks (SWMU 3). It consisted of an unlined surface impoundment whose base was at or below the water table. The unit measured approximately 375 feet long, by 85 feet wide, by 7 feet deep. The reported capacity was one million gallons, although the SPCC plan records it as approximately 550,000 gallons. The unit was surrounded by a dike constructed of a clay core with a shell surface.

The unit was constructed as part of the NPDES wastewater treatment system. It received effluent from the Aeration Tank (SWMU 15) and released its effluent to the Former NPDES Drainage Ditch (SWMU 17) through above-ground piping. The unit was reported to contain a 1.5 feet layer of sludge constituting approximately 1770 cubic yards of K001 hazardous waste. Sprinkler heads were installed in the pond to accelerate the aeration of the liquid. A fire house was located near the northeast corner of the unit with a pump from the pond for use in case of fire at the facility.

The unit was installed in an area of the facility which had been formerly used for the disposal of creosote wastewaters. The area is described in some files as an "inactive landfill", a "low-lying basin", or an "irrigation area". This area is described in more detail as the Creosote Wastewater Disposal Area (SWMU 18) in this report. The Treated Lumber Waste Pile (SWMU 19) is located directly south of the unit and may have been what was referred to as the "inactive landfill".

During closure of the unit in 1987, sludge and visually contaminated soil from the northernmost twenty percent of the unit was excavated and placed in the southern eighty percent to be solidified with lime kiln dust. Only the southern section was enclosed within the lime slurry cutoff wall of the Capped Landfill Unit (SWMU 1). No soil sampling was performed at the time of excavation to insure that all contaminated soil had been removed from the northern section of the unit. At the time of the VSI, the area was covered with vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed process wastewater from the treatment of lumber using creosote and pentachlorophenol, and the K001 sludge generated from that treatment.

RELEASE PATHWAYS:

Air	(L)	Surface Water	(L)	Soil	(U)
Ground Water	(U)	Subsurface Gas			(L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): Ground-water contamination in both the upper and lower aquifers has been documented from this unit. Well E-1, located in the area which was formerly in the northern section of the unit, contained 0.38 mg/l arsenic, 0.210 mg/l barium, 0.544 mg/l total volatile organics, and 0.244 mg/l total phenols. During the excavation of part of the unit for closure, no soil sampling was performed to determine if all contaminated soil had been removed. The boring logs of RW-1, E-1, and RW-2 from March and April 1991 describe creosote odor and wood chips in the soils from approximately 16 feet below surface level (bsl) to approximately 22 feet bsl.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	(*)
RFI Necessary	( )

REFERENCE(S): 1, 2, 3, 9, 27, 28, 29, 30, 31, 32, 33, 38, 39, 45, 49, 50, 51, 68, 78, 79, 87, 91, 93, 126, 133, 136, 137, 142, 143, 144

COMMENTS: * Soil sampling should be performed in the former location of the unit, outside of the lime slurry cutoff wall, at sufficient depths below the point of excavation to determine if all contaminated soil has indeed been removed.

SWMU NUMBER: 17 **PHOTOGRAPH NUMBER:** 17.1, 17.2, 17.3

NAME: Former NPDES Drainage Ditch

TYPE OF UNIT: Drainage Ditch

PERIOD OF OPERATION: 1938 to 1987

PHYSICAL DESCRIPTION AND CONDITION: The unit was located between the Vacuum Ponds (SWMU 12) and the Aeration Pond (SWMU 16), running from the northern portion of the facility south into Threemile Creek (AOC D). The unit received effluent from the Aeration Pond (SWMU 16), stormwater runoff from the facility, and in past operations, untreated process wastewaters. Discharge from the unit into Threemile Creek (AOC D) was regulated under NPDES Permit No. AL0001104 beginning in July 1974. Discharge from the unit was monitored for COD, total phenols, oil and grease, temperature and pH.

The unit measured approximately 800 feet long. At one time it reportedly measured 10 feet across from top bank to top bank, and was approximately four to five feet deep (plus two feet of sediment). As the unit flowed southward, the dimensions apparently spread to 20 feet across and approximately one foot deep. The unit drained approximately 40 acres of land, (the facility plus some land west of the site owned by Scott Paper). Flow from the plant was estimated at 12,000 gallons per day. Estimated annual runoff for the Alabama coastal region is approximately 30 inches of rainfall per year. The unit was reportedly influenced by tidal fluctuation due to its proximity to Threemile Creek (AOC D) and the Mobile River (the latter being approximately 2000 feet to the east).

The NPDES discharge point in the unit was approximately 700 feet above the confluence with Threemile Creek (AOC D). Approximately 400 feet south of this point a retention pond was constructed in the ditch for spill control. The retention pond was constructed prior to 1975 but the exact date is unknown. Baffled culverts were installed at the inlet and outlet of the retention pond. The culverts consisted of steel pipes, each measuring 7 feet in diameter and 20 feet long. The northern (inlet) culvert was equipped with a baffle across the invert to prevent silting with sand and other materials in the pond and to prevent the discharge of spilled creosote into the pond. Any creosote retained by the baffle would reportedly settle to the bottom of the ditch and periodically be pumped back to a tank to go through the Creosote Recovery System (SWMU 8).

The southern (outlet) culvert was also equipped with a baffle to retain spillage of pentachlorophenol solution by skimming the top of the retained runoff or spillage. The pond between the two culverts measured approximately 100 feet long, 30 feet wide, and 4.5 feet deep. The pond was designed to retain over 100,000 gallons of liquid. According to the facility representative at the VSI, the pond had not received any spillage during his tenure at the site (approximately 1975 to closure). From the second culvert to the end of the ditch (approximately 150 feet), the dimensions of the unit reportedly fluctuated in an irregular fashion.

During closure of the site, much of the contaminated sediment and soil from the unit was excavated, placed in the western Vacuum Pond (SWMU 12) and solidified with lime kiln dust. The Capped Landfill Unit (SWMU 1) covers approximately one third of the former unit. No soil sampling was performed beneath the excavated areas to confirm that all contaminated soil had been removed. At the time of the VSI, only the southernmost portion of the ditch remained at the site. The Current NPDES Drainage Ditch (SWMU 4) was created in the area west of the former ditch during the closure activities at the site. The current ditch enters the former unit approximately 30 feet from the confluence with Threemile Creek (AOC D).

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit received treated and untreated effluent from the treatment of lumber with creosote and pentachlorophenol, as well as untreated runoff from Treated Wood Storage Areas (AOC A) possibly containing pentachlorophenol and creosote drippage and stormwater runoff from the western side of the facility.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): On November 13, 1984 during a RCRA 3012 Site Inspection, sediment samples from the unit were taken for analysis. A sample taken from the ditch at a point directly west of the northern end of the Vacuum Ponds (SWMU 12) was described as "a black, tarry emulsion starting at a depth of approximately 6 inches". The sample was found to contain 11.7 ppm fluorene, 4.2 ppm phenanthrene, 4.2 ppm anthracene, and 12.3 ppm fluoranthene. When portions of the unit were excavated for closure within the landfill, no soil sampling was performed to confirm that all contaminated soil had been removed.

RECOMMENDATIONS:	No Further Action ( ) Confirmatory Sampling (*) RFI Necessary ( )
REFERENCE(S):	1, 2, 15, 28, 29, 39, 49, 50, 51, 68, 87, 105, 126, 133, 136, 142, 143, 144
COMMENTS:	* Soil sampling should be performed in portions of the unit outside the Capped Landfill Unit (SWMU 1), at depths greater than the reported excavation and filling to confirm that all contaminated soil has been removed and disposed of properly.

SWMU NUMBER: 18 **PHOTOGRAPH NUMBER:** 4.2, 4.3, 18.1

NAME: Creosote Wastewater Disposal Area

TYPE OF UNIT: Marsh

PERIOD OF OPERATION: 1938 to 1973

PHYSICAL DESCRIPTION AND CONDITION: The unit consists of approximately six to seven acres of land located on the western border of the facility, south of the Storage Tanks (SWMU 3). The area has been described as a low-lying, shallow basin or marsh/wetlands. The Aeration Pond (SWMU 16) was constructed within the area in 1973, and the Treated Lumber Waste Pile (SWMU 19) is also located within the unit.

Reportedly from 1938 to 1966, wastewater from the creosote wood treating operations was discharged to this marshy area on the west side of the property. In 1966 the Vacuum Ponds (SWMU 12) were installed to recycle the process water used in the Barometric Condenser (SWMU 11). The Vacuum Ponds (SWMU 12) were designed as evaporation ponds, but more wastewater (approximately 3,000 to 5,000 gpd) was generated than could be evaporated in the ponds. This excess wastewater was sprayed over an area described as an "irrigational area" of the plant. Although the exact location of this area is unclear from the available file material, this "irrigational area" must be the marsh/wetlands on the western border of the property since the remaining areas of the facility were designated either for treatment or storage of raw materials and product.

In 1973 the Aeration Pond (SWMU 16) was constructed within this unit to receive treated effluent from the Flocculation and Aeration Tanks (SWMUs 13 and 15) which had been installed some time between 1971 and 1973. Throughout the operational period of this unit, effluent was reportedly released directly to Threemile Creek (AOC D).

The only areas within the unit addressed during the closure of the site were the Aeration Pond (SWMU 16) and the Spot Deposits (SWMUs 24A and 24B, two of the three identified) described in the quality assurance report of the closure. One of the Spot Deposits (SWMU 24A) was located directly southwest of the southwest corner of the Aeration Pond (SWMU 16), and the other (SWMU 25B) was approximately 100 feet directly south of the pond. The second unit reportedly appeared to be an old ditch. The two

Spot Deposits were reportedly scraped clean of visual contamination and backfilled with general fill. The excavated material was placed in the Capped Landfill Unit (SWMU 1). No sampling of the area below the excavations was reported.

During construction of the Capped Landfill Unit (SWMU 1), a considerable amount of fill material was placed in the area to help support the cutoff wall. Approximately 1.2 acres on the western border was leased from Scott Paper for access to the landfill and wells on the western side. At the time of the VSI, facility representatives were unfamiliar with former operations regarding the unit or the installation of the Aeration Pond (SWMU 16).

The Current NPDES Drainage Ditch (SWMU 4) runs through this former unit. Some areas of the ditch were noted to have dead vegetation, although it could not be determined whether the vegetation was stressed from contaminants or from standing water which may flood the area. Most of the area was thickly covered with tall vegetation making inspection difficult.

Facility representatives reported observing a leachate from the Scott Paper Company Solid Waste Landfill located across the property line from this unit in the past. The leachate reportedly entered the drainage ditch on Cavenham property. Cavenham facility representatives were not aware of the nature of the solid waste disposed in the Scott Paper landfill.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit received untreated wastewater from the treatment of lumber with creosote and possibly pentachlorophenol.

RELEASE PATHWAYS: Air (L) Surface Water (M) Soil (H)
Ground Water (H) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): On November 13, 1984 during a RCRA 3012 Site Inspection, sediment samples from the unit were taken for analysis. The inspection described creosote-type sludge and contaminated soils found in the area. Approximately six to eight inches of visible contamination/ discoloration was observed at a half-foot depth. Sediment samples taken contained 79.27 ppm naphthalene; 10.70 ppm 2-chloro-naphthalene; 24.0 ppm fluorene; 8.65 ppm phenanthrene;

8.65 ppm anthracene; 23.45 ppm fluoranthene; 24.47 ppm pyrene; and 71.1 ppm acenaphthene.

The boring log from April 18, 1991 of B-59A on the western border of the site describes large wood chunks and organic odor noted from approximately 14 feet below surface level (bsl) to approximately 44 feet bsl.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	( )
RFI Necessary	(*)

REFERENCE(S): 1, 2, 27, 28, 29, 39, 49, 51, 87, 126, 136, 142, 144

COMMENTS: * Cavenham should attempt to work with Scott Paper Company to determine: (1) the full extent of possible soil and groundwater contamination due to previous operations by Gulf Creosoting Company; and (2) if hazardous constituents are present in the leachate reported by facility representatives to be leaking onto Cavenham property from Scott Paper's solid waste landfill.

SWMU NUMBER: 19 **PHOTOGRAPH NUMBER:** 4.2

NAME: Treated Lumber Waste Pile

TYPE OF UNIT: Waste Pile

PERIOD OF OPERATION: Unknown to approximately 1987

PHYSICAL DESCRIPTION AND CONDITION: The unit was located south of the Aeration Pond (SWMU 16), along the western border of the facility, within the Creosote Wastewater Disposal Area (SWMU 18). The unit reportedly measured approximately 300 feet by 250 feet. The unit was described as an on-site landfill, containing treated and untreated pole cut-offs, poles and other miscellaneous debris. The pole cut-offs were generated in meeting specifications from customers regarding pole length, cap, and other product criteria.

During closure of the site, the poles and debris were removed to the Capped Landfill Unit (SWMU 1). Beneath the unit a black organic sludge was observed. The sludge was tested for creosote contamination and found to be "relatively" clean according to the facility and the contractor conducting the quality assurance. Sampling data was not available and no clean-up of the sludge is mentioned.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed untreated lumber and lumber treated with creosote and pentachlorophenol, along with general wood debris.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (M)
Ground Water (M) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): A black organic sludge was observed when the waste pile was removed to the landfill. The facility reportedly did not remove the sludge nor contain the untreated surface runoff from the area.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	( )
RFI Necessary	(*)

REFERENCE(S): 1, 2, 27, 51, 87, 133

COMMENTS: * The RFI should be performed in conjunction with the investigation of the entire Creosote Wastewater Disposal Area (SWMU 18) within which the unit was located.

SWMU NUMBER: 20 **PHOTOGRAPH NUMBER:** Units no longer present at facility

NAME: Satellite Accumulation Areas (SAAs)

TYPE OF UNIT: SAAs

PERIOD OF OPERATION: Approximately 1938 to 1987

PHYSICAL DESCRIPTION AND CONDITION: The unit consisted of 55-gallon steel drums located in waste treatment areas of the facility and at the entrances to the bath houses. The drums were constructed of low carbon steel and were compatible with K001 wastes. In addition, the drums met U.S. Department of Transportation Specification No. 17C. The facility representatives could not give an exact number of SAAs, but it is estimated to be approximately seven.

The units received used contaminated articles such as gloves, coveralls, etc., on an as needed basis. Tops were reportedly kept on the containers at all times except when adding wastes. Once full, the container was transferred to the Container Storage Area (SWMU 21) for storage prior to final disposal at a licensed landfill.

All drums/containers containing hazardous materials were removed offsite during closure of the plant. The units are no longer in use at the facility.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The units received used articles such as gloves or coveralls contaminated with creosote oils or pentachlorophenol solution.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was noted in the available file material or observed during the VSI.

RECOMMENDATIONS:	No Further Action	(X)
	Confirmatory Sampling	( )
	RFI Necessary	( )
REFERENCE(S):	1, 91	
COMMENTS:	None	

SWMU NUMBER: 21

PHOTOGRAPH NUMBER: The unit is located within SWUM 1

NAME: Container Storage Area

TYPE OF UNIT: RCRA Storage Area

PERIOD OF OPERATION: Approximately 1971 to 1985

PHYSICAL DESCRIPTION AND CONDITION: The unit was located in the southern portion of the facility warehouse, directly east of the Aeration Pond (SWMU 16). The unit was RCRA-regulated because it stored hazardous wastes for greater than 90 days.

The facility warehouse was described as a wood-framed building with tin-sheet walls and roof, although prior to 1975 the building was predominantly constructed of wood. In addition to hazardous waste, the warehouse was used for storage of miscellaneous tools, steel bonding materials, spare parts, and railroad servicing equipment. The container storage area covered approximately 700 square feet and was situated on a wooden floor, approximately two feet off the ground. No secondary containment was associated with the unit. Steel 55-gallon drums containing dried K001 sludge were stored in the unit prior to offsite disposal. The drums were constructed of low-carbon steel and were compatible with K001 wastes. In addition, the drums met U.S. Department of Transportation Specification No. 17C. The wastes were primarily generated from the Sand Filtration Beds (SWMU 14) and from the cleaning of treatment equipment or tanks.

Crown Zellerbach records indicate that wastes were sent to Dubose Oil Recycling Facility in Pensacola, Florida, and to Chemical Waste Management in Emelle, Alabama. At the time of closure, all remaining drums were reportedly transferred offsite for disposal and the warehouse building was dismantled and buried in the Capped Landfill Unit (SWMU 1). The location of the former unit is within the cutoff wall of the closed landfill. At the time of the VSI, the landfill was covered with thick vegetation.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed drums of dried K001 sludge, and drums of articles contaminated with creosote oils or pentachlorophenol solution.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was noted in the available file material or observed during the VSI.

RECOMMENDATIONS:

No Further Action	(X)
Confirmatory Sampling	( )
RFI Necessary	( )

REFERENCE(S): 1, 2, 3, 9, 28, 33, 37, 38, 39, 49, 63, 64, 79, 87, 91, 96, 102, 143, 144

COMMENTS: None

SWMU NUMBER: 22 **PHOTOGRAPH NUMBER:** 22.1, 22.2

NAME: North Tar Deposit

TYPE OF UNIT: Waste Pile

PERIOD OF OPERATION: Unknown to Approximately 1987

PHYSICAL DESCRIPTION AND CONDITION: The unit was located in the northernmost portion of the facility, north-northeast of the treatment area and north of the Former Conical Burner (SWMU 25). The unit has been described as two piles split by one of the railroad tracks into the site. The overall dimensions of the unit were estimated at 100 feet by 30 feet by five feet high.

The unit reportedly received the wash out from the treatment cylinders. The treatment cylinders were washed out periodically to remove the sludge which collected in the bottom of the cylinders. The liquid/sludge was drained from the treatment cylinder into a large steel, bowl-shaped door from a former treatment cylinder. The door was suspended by cable from the crane used to transport the lumber in the yards. The liquid was drained off into the recovery systems/wastewater treatment, and the solids/sludge was transported to the uncontained waste pile for disposal. The facility representative could not recall how often this procedure occurred. Surface drainage from the unit entered the Earthen Drainage Ditch (AOC G) which flow unmonitored into Threemile Creek (AOC D).

During closure activities, the surface deposits were removed and placed in the western Vacuum Pond (SWMU 12) within the Capped Landfill Unit (SWMU 1). Soil in the area was reportedly excavated until the site appeared visually clean. The total volume of material excavated was estimated at 1122 cubic yards. The excavated material was replaced with uncontaminated general fill material. No soil sampling was performed to determine if all contaminated soil had been removed from the site.

At the time of the VSI, the area was partially overgrown with vegetation. Low-lying areas of the access road appeared to either be stained or wet from the water table below.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit received sludge from the treatment cylinders containing creosote oils and possibly pentachlorophenol solution.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): Soil sampling was not performed at the time of excavation to determine if all contaminated soil had been removed. In addition, no secondary containment was associated with the unit to prevent release to the ground water.

RECOMMENDATIONS:
No Further Action ( )
Confirmatory Sampling (*)
RFI Necessary ( )

REFERENCE(S): 1, 2, 27, 28, 87

COMMENTS: * Soil sampling should be performed at sufficient depths below the point of excavation and around the perimeter of the excavation to determine if all of the contaminated soil has been removed.

SWMU NUMBER: 23 **PHOTOGRAPH NUMBER:** 17.1, 23.1, 23.2

NAME: Creek Tar Deposit

TYPE OF UNIT: Waste Pile

PERIOD OF OPERATION: Unknown to Approximately 1987

PHYSICAL DESCRIPTION AND CONDITION: The unit was located on the bank of Threemile Creek (AOC D) at the southern end of the railroad tracks from the treatment cylinders. A shell-covered access road bordered the unit to the north. The pile was bordered on lower elevations to the east and south by decaying treated log bulkheads. The unit was reportedly being eroded by the creek on the southeast corner.

Facility representatives have speculated that this waste pile was generated in the same manner as the North Tar Deposit (SWMU 22), i.e., through accumulating washout sludge from the treatment cylinders. The material in the waste pile reportedly appeared to have been dumped from a railroad car. The unit covered approximately 50 feet by 80 feet, and contained material approximately 5 feet thick. The surface was described as hard-baked and highly fractured. General surface elevation sloped from approximately 4.5 feet msl at the northern end to 3 feet msl at the southern end, allowing some runoff to discharge directly to Threemile Creek (AOC D).

During closure of the site, material and soil were excavated to a depth of six feet. Excavated material was disposed in the solidified Vacuum Ponds (SWMU 12) and replaced with general sand backfill. The excavation found tar deposits, old poles and piles. The excavation was continued until the material removed looked visually clean. No soil sampling was performed to determine if all contaminated soil had been removed from the site.

At the time of the VSI, the area of the former unit was partially covered with vegetation. A waste pile of concrete, asphalt and old railroad ties was observed in the vicinity of the former unit.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit reportedly managed sludge from the treatment cylinders containing creosote oils and pentachlorophenol, along with old poles and railroad ties.

RELEASE PATHWAYS:

Air	(L)	Surface Water	(L)	Soil	(U)
Ground Water	(U)	Subsurface Gas			(L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): A RFA was performed on the unit in October 1986 by Ebasco Services Incorporated under a contract with EPA. The RFA included a sampling report and recommended a remedial investigation of the unit. Direct evidence of sediment, soil and surface water contamination was visually observed. Sediment and soil contamination was confirmed with sampling. K001 contaminants were found in soils ranging from 1.8 to 819 mg/kg, and in sediments around the waste pile ranging from 36 to 70 mg/kg. Although leachate directly entering the creek was observed, surface water sampling only showed traces of pentachlorophenol and fluoranthene. It was concluded that the large tidal volume in the creek was diluting the leachate flow to below detection limits. The unit was excavated during the closure of the site in 1987; however, sampling was not performed to confirm that all contaminated soil had been removed.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	(*)
RFI Necessary	( )

REFERENCE(S): 1, 2, 27, 28, 35, 51, 87

COMMENTS: * Soil sampling should be performed at sufficient depths below the point of excavation and around the perimeter of the excavation to insure that all contaminated soil has been removed.

SWMU NUMBER: 24A-C **PHOTOGRAPH NUMBER:** 1.5, 6.1

NAME: Spot Deposits

TYPE OF UNIT: Waste Piles

PERIOD OF OPERATION: Approximately 1938 to 1987

PHYSICAL DESCRIPTION AND CONDITION: The unit consists of three areas designated for cleanup during the closure activities at the facility. Two of the areas (SWMUs 24A and 24B) have been discussed previously in the Creosote Wastewater Disposal Area (SWMU 18). SWMU 24A was located directly southwest of the southwest corner of the Aeration Pond (SWMU 16), and SWMU 24B was approximately 100 feet directly south of the pond. The Southern Deposit (SWMU 24B) reportedly appeared to be an old ditch, possibly part of the Current NPDES Drainage Ditch (SWMU 4). SWMU 24C was located directly east of the treatment cylinders and may have consisted of three spots. This unit measured approximately 15 feet by 10 feet total, with an estimated depth of 2 feet. SWMUs 24A and 24B were not given dimensions in the available file material and facility representatives were not familiar with the sites.

SWMUs 24A and 24B within the Creosote Wastewater Disposal Area (SWMU 18) were reportedly scraped clean to visual standards and backfilled with general fill during closure of the site. The excavated material was placed in the Capped Landfill Unit (SWMU 1). No sampling of the area below the excavation was reported. SWMU 24C, adjacent to the treatment cylinders, was excavated to a depth of two feet. The total estimated volume of SWMU 24C was twelve cubic yards. The material excavated from this area was also deposited in the Vacuum Ponds (SWMU 12) within the landfill.

At the time of the VSI, these areas were covered with vegetation and were difficult to locate due to the extreme change in the facility's appearance over the past five years. Only SWMU 24A is located within the boundaries of the Capped Landfill Unit (SWMU 1).

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit appeared to have managed dried K001 sludge and treatment cylinder washout containing creosote oils and pentachlorophenol solution.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (U)
Ground Water (U) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): On November 13, 1984 during a RCRA 3012 Site Inspection, sediment samples from the unit within the Creosote Wastewater Disposal Area (SWMU 18) were taken for analysis. The inspection described creosote type sludge and contaminated soils found in the area. Approximately six to eight inches of visible contamination/discoloration was observed at a half-foot depth. Sediment samples taken showed 79.27 ppm naphthalene; 10.70 ppm 2-chloro-naphthalene; 24.0 ppm fluorene; 8.65 ppm phenanthrene; 8.65 ppm anthracene; 23.45 ppm fluoranthene; 24.47 ppm pyrene; and 71.1 ppm acenaphthene.

RECOMMENDATIONS:

No Further Action	( )
Confirmatory Sampling	( )
RFI Necessary	(*)

REFERENCE(S): 1, 2, 27, 28, 87

COMMENTS: * The sampling of SWMU 24B should be performed in conjunction with the investigation of the entire Creosote Wastewater Disposal Area (SWMU 18). The investigation of SWMU 24C should be incorporated into the RFI of the treatment process area.

SWMU NUMBER: 25 **PHOTOGRAPH NUMBER:** No longer present at the facility

NAME: Former Conical Burner

TYPE OF UNIT: Incinerator

PERIOD OF OPERATION: June 1969 to October 1973

PHYSICAL DESCRIPTION AND CONDITION: The unit was located on the eastern border of the facility, within the raw material/untreated lumber storage, east of the former pole deck and debarking operations. The unit was a single-chamber incinerator used for the burning of facility refuse, pine bark, and shavings. The pine bark and shavings were generated through debarking and pole maching operations (making the poles round).

The unit was described in the air permit application as a 45-feet diameter conical teepee burner; other references refer to it as the bark burner. The stack on the unit reached a height of 45 feet and had an inside diameter of 18 feet. The unit was rated with a capacity to burn 5000 pounds of material per hour. The unit was fed directly from the pole machine and debarking operations and was in operation 8 hours per day, 5 days per week, 52 weeks per year. The unit was to be shut down by June 1973, once the facility ceased the debarking operations or found a new method of disposal of the wastes generated.

The facility was issued a conditional permit to operate #503-2004-0001 for the unit on December 8, 1972. The permit was to expire in December 1973. However, the facility reportedly ceased operations of the unit in October 1973.

At the time of the VSI, the location of the former unit was covered with vegetation. The unit was reportedly removed from the property long before closure activities commenced.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed facility refuse, pine bark, and shavings from pole maching and debarking operations.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Ground Water (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was noted in the available file material or observed during the VSI.

RECOMMENDATIONS:	No Further Action	(X)
	Confirmatory Sampling	( )
	RFI Necessary	( )

REFERENCE(S): 1, 138, 140, 141

COMMENTS: None

SWMU NUMBER: 26 **PHOTOGRAPH NUMBER:** No longer present at the facility

NAME: BFI Dumpster

TYPE OF UNIT: Dumpster

PERIOD OF OPERATION: Possibly 1973 to Present

PHYSICAL DESCRIPTION AND CONDITION: The unit consists of a refuse dumpster managed by Browning Ferris Industries (BFI). During the active life of the facility, the unit was located next to the northeast corner of the Aeration Pond (SWMU 16). At that time refuse was picked up weekly by BFI. Since closure, BFI has been on call for refuse pick-up from the site. No dumpster was observed on site during the VSI. Facility representatives said another dumpster will be kept at the site once the ground-water treatment operations commence, probably in March 1992.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED: The unit managed general facility/office refuse.

RELEASE PATHWAYS:

Air	(L)	Surface Water	(L)	Soil	(L)
Ground Water	(L)	Subsurface Gas	(L)		

HISTORY AND/OR EVIDENCE OF RELEASE(S): No evidence of release was noted in the available file material or observed during the VSI.

RECOMMENDATIONS:

No Further Action	(X)
Confirmatory Sampling	( )
RFI Necessary	( )

REFERENCE(S): 1

COMMENTS: None